American Gas Association

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1990 Gas Facts

1989 Data • A Statistical Record of the Gas Utility Industry

Department of Statistics

gas facts

1989 DATA

■ ENERGY RESERVES ■ NATURAL GAS SUPPLY
■ UNDERGROUND STORAGE
■ DISTRIBUTION AND TRANSMISSION
■ ENERGY CONSUMPTION
■ CUSTOMERS ■ SALES ■ REVENUES
■ PRICES ■ APPLIANCE AND HOUSING DATA
■ FINANCE ■ PERSONNEL DATA

■ GLOSSARY ■ INDEX

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GAS FACTS
1989 DATA

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AMERICAN GAS ASSOCIATION

The American Gas Association assumed its present status as the gas utility industry trade association in 1927, after a merger of two predecessor organizations. It renders assistance to the gas utility industry so that the industry may serve its customers more efficiently. Dependence is placed upon the voluntary cooperation of gas companies and established committees composed of representatives from these companies.

The Association recognizes the need for factual information regarding the gas industry for the use, not only of industry organizations, but also interested outside publics. Its statistical efforts are a vital part of this function, and the publication of Gas Facts is one result of these efforts. The statistical activities of A.G.A. are performed by the Department of Statistics with guidance by the Statistics and Load Forecast Methods Committee.

1990–91

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INTRODUCTION

GENERAL

This publication contains detailed statistics for 1989 and summary statistics for 1975–1988 for the gas utility industry which by definition, consists of the companies engaged in natural gas distribution and transmission. The publication also contains relevant data on the gas producing segment of the industry and key statistics on other energy industries.

Production data of the gas industry, and pertinent other energy industry data, are also included. Gas volumes are expressed in millions of cubic feet (at 14.73 psia and 60°F unless otherwise noted) and in British thermal units (Btu) to permit direct comparison with other energy data. A conversion table is included as Appendix B.

Appendix C contains a sample listing of gas utility companies according to their classification as distribution, transmission, integrated, or in some cases, combination companies. These classifications are defined in the glossary, Appendix A. Appendix D contains consumption data gathered by the Gas Requirements Committee. Throughout the publication totals may not add due to independent rounding.

The user should be aware that there has developed a sizeable transportation market which directly affects gas utility sales quantities, revenues and number of customers. Although total pipeline throughput may remain the same, as transportation volumes to end-users increase, gas utility sales quantities to end-users will decrease.

Data presented in *Gas Facts,* broken down by company type, are not necessarily comparable from year to year. Acquisitions, mergers and corporate reorganizations continue to cause the number of companies in any given category to vary from year to year. Some of these changes are sizeable and can cause a dramatic shift in the data reported for a specific category from year to year.

SOURCES OF INFORMATION

Most of the information contained in this volume is developed from data contained in the Uniform Statistical Report, a detailed information form prepared annually by both electric and gas utility companies. Information is also derived from reports filed with regulatory commissions, from financial publications, and from statistical reports prepared by government and private agencies. For 1989, the gas utility companies participating in the Uniform Statistical Report survey represented 98 percent of total gas utility industry sales. Data for non-reporting companies, whose sales represent the remaining 2 percent, were estimated based on recent historical experience.

Employee accident data were taken from the A.G.A. *Disabling Injury Experience of the Gas Utility Industry* report and the National Safety Council *Accident Facts*. Estimates of proved reserves of natural gas, natural gas liquids and petroleum were taken from the U.S. Department of Energy report *U.S. Crude Oil, Natural Gas and Natural Gas Liquids Reserves,* 1989 annual report. Since this time series only begins in 1977, A.G.A., API and CPA data on natural gas reserves, 1960–1979, are presented. Statistics on underground storage operations were developed by the A.G.A. Committee on Underground Storage. Data for gas spaceheating customers were taken from the A.G.A. *Gas Househeating Survey.* Data on new security issues, as well as related cost and yield data, were derived from various financial publications, supplemented by data provided in the Uniform Statistical Report.

ACKNOWLEDGEMENTS

Our thanks go to those companies participating in the Uniform Statistical Report information gathering effort. Their cooperation and support are the essential elements which have made this publication a primary source of gas utility industry data, and an important industry reference. The cooperation of the public and governmental agencies credited in tables is also greatly appreciated.

Credit also goes to Associate Director, Statistical Services Ellen Hahn, Project Statisticians Carole Williams-Hopkins and Vanessa Chu, and Supply and Statistics Secretaries Jean Twyman and Lisa Ramey. Also contributing to the effort were the A.G.A. Computer Services and Publications/Graphic Services Departments; Bob Kalisch—Director, Gas Supply and Statistics; and Patrick Curley—former Associate Director, Statistical Services.

SECTION 1
1989 IN REVIEW

Natural gas production in 1989 rose slightly more than one percent over 1988 and reached its highest level since 1984. Imports of gas, primarily from Canada, reached a record level of 1.4 Tcf. Gas well completions in 1989 rose to their highest level since 1985, recording a 13.2 percent increase over the 1988 level.

Total proved reserves at year-end 1989 were 167.1 Tcf, down from the 168.0 Tcf level at year-end 1988. Overall, proved reserves of natural gas in the lower-48 states were 2.7 percent higher in 1989 than they were in 1987. Replacement of natural gas production by reserve additions was 95.4 percent in 1989 as compared to the ten year average of 94 percent of production.

Distribution and transmission facilities increased in 1989 to 1,185.0 thousand miles of distribution main and pipeline, while storage capacity was approximately 7.7 Tcf. Thus the gas utility industry's deliverability capacity continues to be matched to the steadily expanding number of gas customers. Average gas utility customers increased in 1989 to 53,365,000.

Gas utility sales decreased 1.4% in 1989 to 10,551.1 trillion Btu. Residential sales increased 2.2%, commercial sales rose 0.7%, while industrial sales declined 8.5% from 1988 levels.

Reported gas utility transportation deliveries to end-users totaled 3,732.8 trillion Btu in 1989, up 8.9 percent from 1988.

The average retail natural gas price increased 4.4% in 1989 compared with 1988. The residential and commercial price rose 3.0% and industrial price increased 4.6%.

GAS FACTS

TABLE 1-1
COMPARISON OF GAS UTILITY INDUSTRY CUSTOMERS, SALES, REVENUES AND PRICES BY CLASS OF SERVICE, 1988 AND 1989

	1989	1988[R]	Percentage Change
CUSTOMERS—TOTAL[a]	**53,356,000**	**52,421,500**	**+ 1.8**
Residential	48,980,500	48,132,600	+ 1.8
Commercial	4,160,600	4,069,200	+ 2.2
Industrial	167,700	167,600	+ 0.1
Other	47,200	52,100	− 9.4
SALES—TOTAL[b]	**10,551,100**	**10,705,300**	**− 1.4**
Residential	4,798,000	4,695,000	+ 2.2
Commercial	2,322,800	2,306,000	+ 0.7
Industrial	3,241,900	3,544,100	− 8.5
Other	188,400	160,200	+ 17.6
REVENUES—TOTAL[c]	**$47,493,381**	**$46,161,619**	**+ 2.9**
Residential	26,171,772	24,828,402	+ 5.4
Commercial	11,077,314	10,681,487	+ 3.7
Industrial	9,660,411	10,113,245	− 4.5
Other	583,884	538,485	+ 8.4
PRICES—TOTAL[d]	**$4.50**	**$4.31**	**+ 4.4**
Residential	5.45	5.29	+ 3.0
Commercial	4.77	4.63	+ 3.0
Industrial	2.98	2.85	+ 4.6
Other	3.10	3.86	− 19.7

a. Yearly averages.
b. Sales quantities in billions of Btu.
c. Revenues in thousands of dollars.
d. Prices in dollars per million Btu.
R–Revised.

SECTION 2
ENERGY RESERVES

Prior to 1980, data on reserves of oil, natural gas and gas liquids were taken from *Reserves of Crude Oil, Natural Gas Liquids, and Natural Gas in the United States and Canada,* an annual report published jointly by A.G.A., the American Petroleum Institute (API) and the Canadian Petroleum Association (CPA). The publication of this report was discontinued after the year-end 1979 report was released in June, 1980. Since 1977, however, the Energy Information Administration (EIA) within the Department of Energy has published an annual reserves report. Data listed below and in several of the tables in this section were taken from the EIA series. For years prior to 1980 A.G.A./API/CPA data is also listed for natural gas reserves.

	Reserves as of December 31	
	1989	% Change 89/88
Natural Gas		
(Billions of cubic feet)		
Total Proved Reserves	167,116	− 0.5
% of Non-Associated, estimated	84.0	
% of Associated-Dissolved, estimated	16.0	
Underground Storage*	5,236	− 0.5
Total Discoveries	10,032	− 3.1
Production	16,983	+ 1.9
Natural Gas Liquids		
(Millions of barrels)		
Total Proved Reserves	7,769	− 5.7
Total Discoveries	416	+ 9.2
Production	731	− 3.1
Crude Oil		
(Millions of barrels)		
Total Proved Reserves	26,501	− 1.2
Total Discoveries	716	+ 29.5
Production	2,586	− 8.0

*Not included in Total Reserves. Data taken from "The Underground Storage of Gas in the United States and Canada."

CHART 1-1

SELECTED GAS INDUSTRY HIGHLIGHTS OF 1989

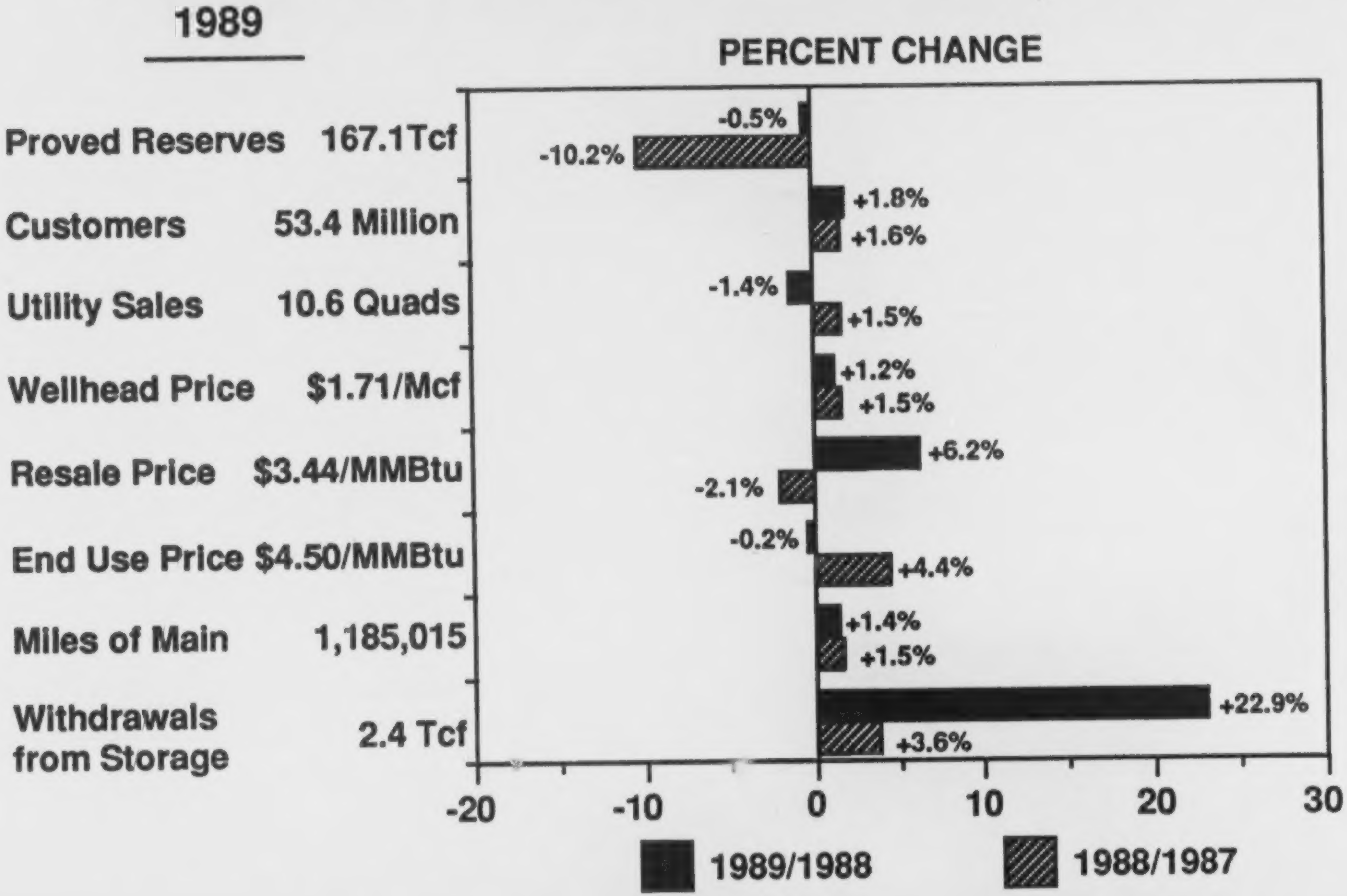


TABLE 2-1

SUMMARY OF ANNUAL ESTIMATES OF PROVED RESERVES OF NATURAL GAS IN THE UNITED STATES, 1960–1979[a]

(Millions of Cubic Feet)

	Changes in Reserves during year										
Year	Extensions	Extensions and Revisions	Revisions	New Field Discoveries	Discoveries of New Fields and New Pools in Old Fields	New Reservoir Discoveries	Total of Discoveries, Revisions and Extensions	Net Change in Underground Storage	Preliminary Net Production during Year[c]	Estimated Proved Reserves as of End of Year	Change over Previous Year
1960	—	7,293,015	—	—	6,600,963	—	13,893,978	281,273	13,019,356	262,326,326	1,155,895
1961	—	10,258,692	—	—	6,907,729	—	17,166,421	159,544	13,378,649	266,273,642	3,947,316
1962	—	13,184,794	—	—	6,299,164	—	19,483,958	159,231	13,637,973	272,278,858	6,005,216
1963	—	12,586,733	—	—	5,577,934	—	18,164,667	253,733	14,546,025	276,151,233	3,872,375
1964	—	13,342,838	—	—	6,909,301	—	20,252,139	195,110	15,347,028	281,251,454	5,100,221
1965	—	14,775,570	—	—	6,543,709	—	21,319,279	150,483	16,252,293	286,468,923	5,217,469
1966	9,224,745	—	4,937,962	2,947,329	—	3,110,396	20,220,432	134,523	17,491,073	289,332,805	2,863,882
1967	9,538,584	—	6,570,578	3,170,520	—	2,524,651	21,804,333	151,403	18,380,838	292,907,703	3,574,898
1968	7,758,821	—	3,016,146	1,376,429	—	1,545,612	13,697,008	118,569	19,373,428	287,349,852	(5,557,851)
1969	5,800,489	—	(1,238,261)	1,769,557	—	2,043,219	8,375,004	107,169	20,723,190	275,108,835	(12,241,017)
1970	6,158,168	—	(99,721)	27,770,223[b]	—	3,367,689	37,196,359	402,018	21,960,804	290,746,408	15,637,573
1971	6,374,706	—	(1,227,400)	1,317,574	—	3,360,541	9,825,421	310,301	22,076,512	278,805,618	(11,940,790)
1972	6,153,683	—	(1,077,791)	1,462,539	—	3,096,132	9,634,563	156,563	22,511,898	266,084,846	(12,720,772)
1973	6,177,286	—	(3,474,756)	2,152,151	—	1,970,368	6,825,049	(354,282)	22,605,406	249,950,207	(16,134,639)
1974	5,847,251	—	(1,333,285)	2,013,745	—	2,151,473	8,679,184	(178,424)	21,318,470	237,132,497	(12,817,410)
1975	6,027,433	—	383,449	2,423,382	—	1,649,424	10,483,688	302,561	19,718,570	228,200,176	(8,932,321)
1976	5,337,707	—	(1,197,119)	1,421,013	—	1,993,867	7,555,468	(187,550)	19,542,020	216,026,074	(12,174,102)
1977	6,601,229	—	983,551	2,114,505	—	2,152,639	11,851,924	446,930	19,447,050	208,877,878	(7,148,196)
1978	6,733,441	—	118,436	1,719,938	—	2,014,329	10,586,144	148,733	19,311,048	200,301,707	(8,576,171)
1979	7,113,113	—	2,907,551	2,575,779	—	1,689,504	14,285,947	239,323	19,910,353	194,916,624	(5,385,083)

a. Volumes are calculated at a pressure base of 14.73 psi, absolute, and at a standard temperature of 60°F.
b. Includes the estimates of proved reserves in the Prudhoe Bay Permo-triassic reservoir discovered in 1968 and not previously included.
c. "Preliminary Net Production" equals estimated gross withdrawals less (1) gas reinjected into producing reservoirs for cycling and pressure maintenance, and (2) natural gas liquids. "Preliminary Net Production" differs from U.S. Bureau of Mines "Marketed Production" in that (1) the sources from which they are derived are different, and (2) "Marketed Production" includes natural gas liquids.

( ): Denotes negative value.

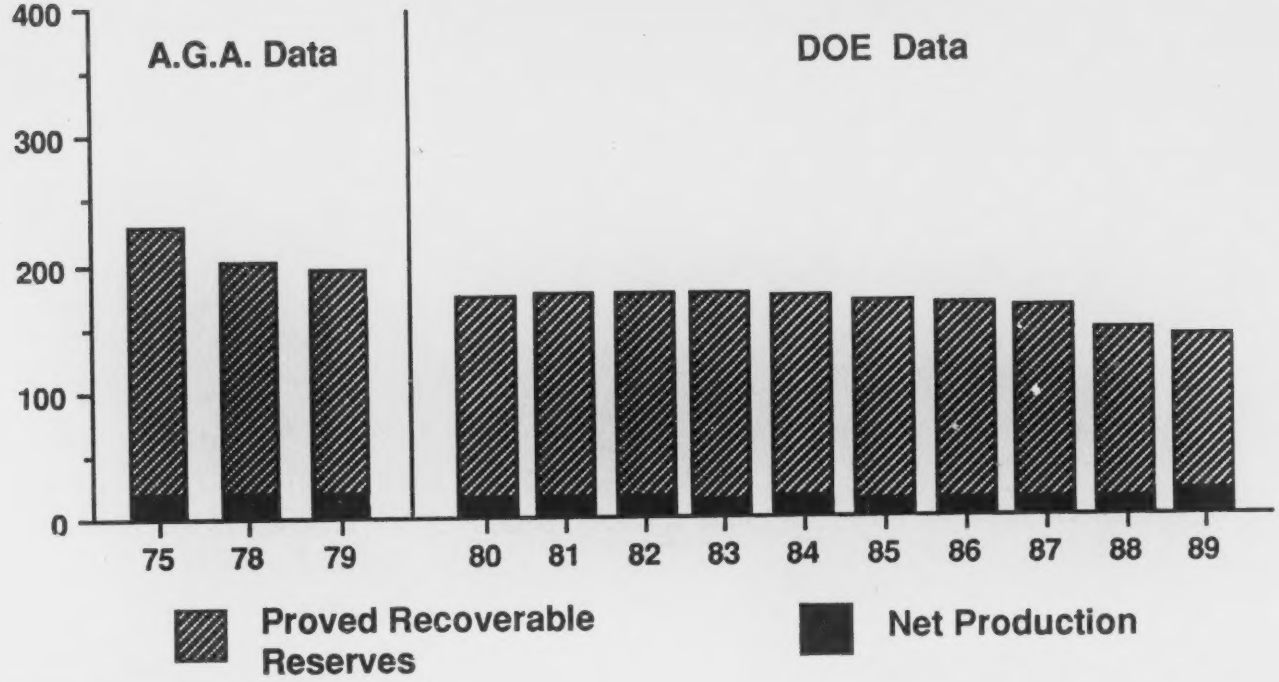
Source: A.G.A., American Petroleum Institute and Canadian Petroleum Association. *Reserves of Crude Oil, Natural Gas in the United States and Canada as of December 31, 1979.*

Note: Publication of the above mentioned source ceased with the December 31, 1979 edition. See Table 2-2 for EIA information covering 1976-1989.

CHART 2-1

PROVED RECOVERABLE RESERVES & NET PRODUCTION OF NATURAL GAS IN THE UNITED STATES

(TRILLIONS OF CUBIC FEET)

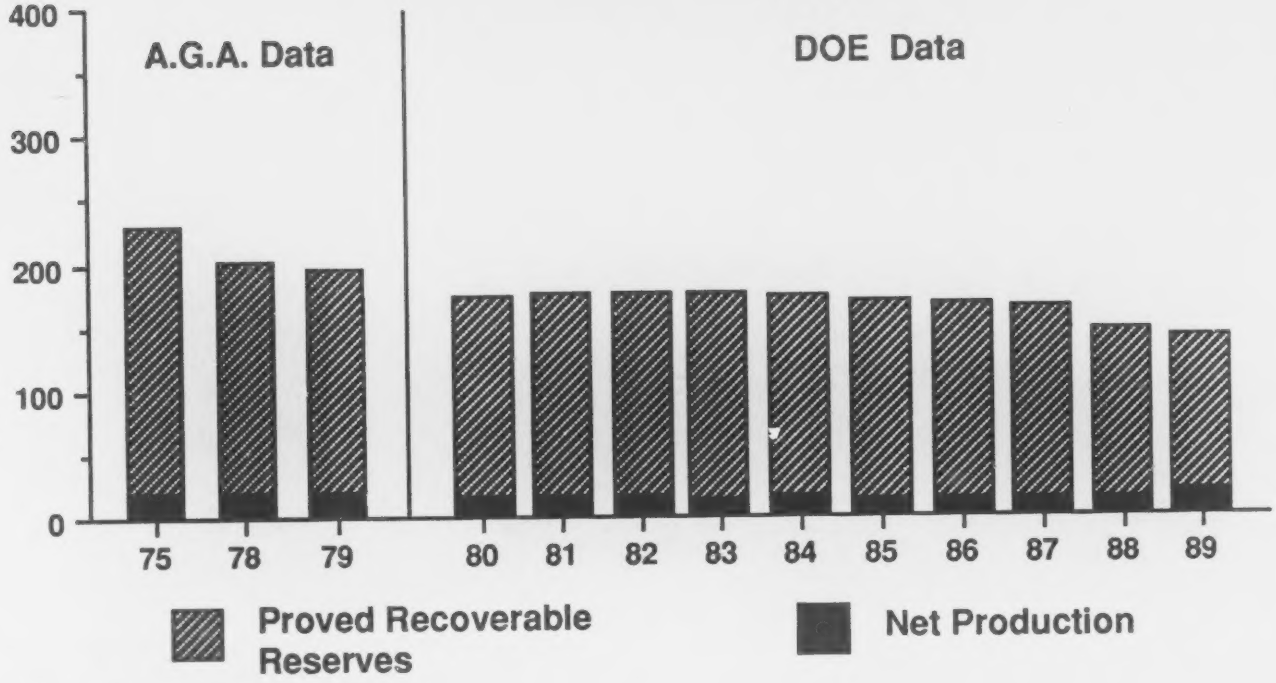


REFERENCE: TABLES 2-1, 2-2

CHART 2-1

PROVED RECOVERABLE RESERVES & NET PRODUCTION OF NATURAL GAS IN THE UNITED STATES

(TRILLIONS OF CUBIC FEET)



REFERENCE: TABLES 2-1, 2-2

TABLE 2-3
CHANGES IN ESTIMATED PROVED RESERVES OF NATURAL GAS, IN THE UNITED STATES BY STATE, DURING 1989[a]

(Billions of Cubic Feet)

		Changes in Reserves During 1989		
State and Subdivision	Published Proved Reserves 12/31/88	Net of Corrections and Adjustments	Revision Increases	Revision Decreases
(1) Total United States	**168,024**	**3,013**	**26,673**	**23,643**
(2) Alabama Onshore	809	(12)	28	48
(3) Alaska	9,078	16	227	136
(4) Arkansas	1,986	(46)	202	288
(5) California	3,519	(24)	255	145
(6) Coastal Region Onshore	215	1	39	13
(7) Los Angeles Basin Onshore	151	(11)	26	15
(8) San Joaquin Basin Onshore	2,912	(13)	182	87
(9) State Offshore	241	(1)	8	30
(10) Colorado	3,535	212	431	217
(11) Florida	51	5	0	3
(12) Kansas	10,104	250	687	446
(13) Kentucky	923	14	67	13
(14) Louisiana[b]	12,224	328	5,217	4,434
(15) North	2,398	164	359	236
(16) South Onshore	8,654	107	1,545	1,007
(17) State Offshore[b]	1,172	57	3,313	3,191
(18) Michigan	1,323	55	228	283
(19) Mississippi	1,143	17	181	192
(20) Montana	819	(106)	91	25
(21) New Mexico	17,166	255	1,189	2,914
(22) East	2,945	130	514	250
(23) West	14,221	125	675	2,664
(24) New York	351	53	5	22
(25) North Dakota	541	29	77	52
(26) Ohio	1,229	142	45	20
(27) Oklahoma	16,495	202	1,984	1,732
(28) Pennsylvania	2,072[b]	(367)	126	144
(29) Texas	38,167	913	4,840	3,492
(30) District 1	1,173	314	93	213
(31) District 2 Onshore	2,037	(67)	277	337
(32) District 3 Onshore	3,422	(61)	607	448
(33) District 4 Onshore	7,029	401	850	935
(34) District 5	1,996	21	147	213
(35) District 6	4,961	230	801	303
(36) District 7B	704	(169)	30	36
(37) District 7C	2,781	287	298	206
(38) District 8	7,058	(156)	743	382
(39) District 8A	832	126	227	37
(40) District 9	783	(73)	56	19
(41) District 10	4,830	38	651	300
(42) State Offshore	561	22	60	63
(43) Utah	1,298	260	87	84
(44) Virginia	230	0	16	17
(45) West Virginia	2,306	(66)	147	140
(46) Wyoming	10,308	160	1,237	619
(47) Federal Offshore	32,264	733	9,299	8,177
(48) Miscellaneous[c]	83[b]	(10)	7	0

a. Volumes are calculated at a pressure base 14.73 psi, absolute, and at a standard temperature of 60°F.
b. Includes offshore Alabama.
c. Includes Arizona, Illinois, Indiana, Maryland, Missouri, Nebraska, Oregon, South Dakota, and Tennessee.
Note: "Old" means discovered in a prior year. "New" means discovered during the report year.
Source: U.S. Department of Energy, Energy Information Administration, *U.S. Crude Oil, Natural Gas, and Natural Gas Liquids Reserves*, 1989 Annual Report.

TABLE 2-3 (Continued)
CHANGES IN ESTIMATED PROVED RESERVES OF NATURAL GAS, IN THE UNITED STATES BY STATE, DURING 1989

(Billions of Cubic Feet)

Changes in Reserves During 1989					
Extensions	New Field Discoveries	New Reservoir Discoveries In Old Fields	Production	Proved Reserves 12/31/89	
6,339	**1,450**	**2,243**	**16,985**	**167,116**	(1)
130	0	0	88	819	(2)
155	0	0	401	8,939	(3)
71	0	13	166	1,772	(4)
51	13	11	306	3,374	(5)
5	0	0	23	224	(6)
1	0	0	15	137	(7)
23	13	11	259	2,782	(8)
22	0	0	9	231	(9)
502	8	23	220	4,274	(10)
0	0	0	7	46	(11)
37	4	4	549	10,091	(12)
60	0	6	65	992	(13)
680	17	171	1,687	12,516	(14)
317	0	12	362	2,652	(15)
318	9	149	1,130	8,645	(16)
45	8	10	195	1,219	(17)
48	30	70	129	1,342	(18)
57	25	28	155	1,104	(19)
126	1	4	43	867	(20)
400	38	60	760	15,434	(21)
98	11	23	396	3,075	(22)
302	27	37	364	12,359	(23)
3	0	0	22	368	(24)
8	1	12	55	561	(25)
2	0	7	130	1,275	(26)
713	91	146	1,983	15,916	(27)
79	0	12	136	1,642	(28)
1,877	222	422	4,568	38,381	(29)
86	2	18	206	1,267	(30)
106	6	39	291	1,770	(31)
116	35	79	517	3,233	(32)
609	82	192	1,117	7,111	(33)
35	6	9	156	1,845	(34)
370	1	7	453	5,614	(35)
5	0	3	78	459	(36)
310	0	0	290	3,180	(37)
93	1	50	654	6,753	(38)
7	0	0	81	1,074	(39)
63	0	0	107	703	(40)
58	4	1	515	4,767	(41)
19	85	24	103	605	(42)
9	0	1	64	1,507	(43)
6	0	0	18	217	(44)
73	1	40	160	2,201	(45)
207	2	40	591	10,744	(46)
1,045	997	1,163	4,673	32,651	(47)
0	0	10	7	83	(48)

TABLE 2-5
CHANGES IN ESTIMATED PROVED RESERVES OF NATURAL GAS LIQUIDS, IN THE UNITED STATES BY STATE, DURING 1989

(Millions of Barrels)[a]

		Changes In Reserves During 1989		
State and Subdivision	Published Proved Reserves 12/31/88	Net of Corrections and Adjustments	Revision Increases	Revision Decreases
(1) Total United States	**8,238**	**(277)**	**1,143**	**1,020**
(2) Alabama	166	1	12	3
(3) Alaska	401	(4)	2	2
(4) Arkansas	13	(3)	1	1
(5) California	123	(7)	9	4
(6) Coastal Region Onshore	13	(2)	2	1
(7) Los Angeles Basin Onshore	7	(4)	1	0
(8) San Joaquin Basin Onshore	101	(2)	6	3
(9) State Offshore	2	1	0	0
(10) Colorado	181	7	20	11
(11) Florida	16	(4)	0	1
(12) Kansas	345	(7)	22	14
(13) Kentucky	24	(9)	1	0
(14) Louisiana	517	19	237	211
(15) North	56	3	9	7
(16) South Onshore	421	4	62	43
(17) State Offshore	40	12	166	161
(18) Michigan	99	0	20	23
(19) Mississippi	12	1	1	5
(20) Montana	11	2	2	0
(21) New Mexico	1,023	26	74	173
(22) East	208	(14)	35	18
(23) West	815	40	39	155
(24) North Dakota	52	9	7	6
(25) Oklahoma	765	(69)	87	84
(26) Texas	2,617	(31)	351	221
(27) District 1	30	(1)	1	3
(28) District 2 Onshore	92	(8)	12	17
(29) District 3 Onshore	208	10	38	34
(30) District 4 Onshore	260	15	35	42
(31) District 5	81	13	8	8
(32) District 6	263	(10)	39	20
(33) District 7B	98	(12)	5	7
(34) District 7C	238	(13)	26	17
(35) District 8	547	22	63	36
(36) District 8A	326	(29)	70	12
(37) District 9	106	(10)	7	2
(38) District 10	363	(11)	47	23
(39) State Offshore	5	3	0	0
(40) Utah and Wyoming	1,154	(229)	78	63
(41) West Virginia	92	9	7	6
(42) Federal Offshore	622	12	212	192
(43) Miscellaneous[b]	5	0	0	0

a. Barrel = 42 U.S. gallons.

b. Includes Arizona, Illinois, Indiana, Maryland, Missouri, Nebraska, New York, Ohio, Oregon, Pennsylvania, South Dakota, Tennessee, and Virginia.

Source: U.S. Department of Energy, Energy Information Administration, *U.S. Crude Oil, Natural Gas, and Natural Gas Liquids Reserves*, 1989 Annual Report.

TABLE 2–5 (Continued)

CHANGES IN ESTIMATED PROVED RESERVES OF NATURAL GAS LIQUIDS, IN THE UNITED STATES BY STATE, DURING 1989

(Millions of Barrels)[a]

Changes in Reserves During 1989					
Extensions	New Field Discoveries	New Reservoir Discoveries in Old Fields	Production	Proved Reserves 12/31/89	
259	**83**	**74**	**731**	**7,769**	**(1)**
8	0	0	16	168	(2)
0	0	0	17	380	(3)
0	0	0	1	9	(4)
1	0	0	9	113	(5)
0	0	0	1	11	(6)
0	0	0	0	4	(7)
1	0	0	8	95	(8)
0	0	0	0	3	(9)
22	0	1	11	209	(10)
0	0	0	1	10	(11)
1	0	0	18	329	(12)
1	0	0	1	16	(13)
24	0	6	70	522	(14)
7	0	0	8	60	(15)
16	0	6	55	411	(16)
1	0	0	7	51	(17)
4	2	5	10	97	(18)
1	2	1	1	12	(19)
2	0	0	1	16	(20)
24	2	4	47	933	(21)
7	1	2	25	196	(22)
17	1	2	22	737	(23)
1	0	1	5	59	(24)
31	3	5	84	654	(25)
105	6	18	282	2,563	(26)
1	0	0	3	25	(27)
4	0	1	12	72	(28)
12	3	6	30	213	(29)
23	3	7	41	260	(30)
1	0	0	7	88	(31)
16	0	0	22	266	(32)
1	0	0	12	73	(33)
25	0	0	21	238	(34)
8	0	4	54	554	(35)
2	0	0	25	332	(36)
8	0	0	15	94	(37)
4	0	0	38	342	(38)
0	0	0	2	6	(39)
12	0	2	58	896	(40)
3	0	2	7	100	(41)
19	68	29	92	678	(42)
0	0	0	0	5	(43)

TABLE 2-6
TOTAL ESTIMATED REMAINING IDENTIFIED RESERVES OF COAL AND LIGNITE BY STATE, AS OF JANUARY 1, 1989

(Billions of Short Tons)

State	Total Coal and Lignite	Coal: Anthracite and Semianthracite	Coal: Subbituminous	Coal: Bituminous	Lignite
United States	**473.1**	**7.3**	**180.0**	**240.7**	**45.1**
Alabama	4.9	—	—	3.8	1.1
Alaska	6.1	—	5.4	.7	a
Arizona	.3	—	—	.3	—
Arkansas	.4	.1	—	.3	a
Colorado	17.0	a	3.9	8.9	4.2
Georgia	a	—	—	a	—
Idaho	a	—	—	a	—
Illinois	78.4	—	—	78.4	—
Indiana	10.2	—	—	10.2	—
Iowa	2.2	—	—	2.2	—
Kansas	1.0	—	—	1.0	—
Kentucky	29.9	—	—	29.9	—
Louisiana	.5	—	—	—	.5
Maryland	.8	—	—	.8	—
Michigan	.1	—	—	.1	—
Missouri	6.0	—	—	6.0	—
Montana	120.1	—	102.9	1.4	15.8
New Mexico	4.5	a	2.6	2.0	—
North Carolina	a	—	—	a	—
North Dakota	9.7	—	—	—	9.7
Ohio	18.6	—	—	18.6	—
Oklahoma	1.6	—	—	1.6	—
Oregon	a	—	a	—	—
Pennsylvania	29.4	7.1	—	22.3	—
South Dakota	.4	—	—	—	.4
Tennessee	.9	—	—	.9	—
Texas	13.5	—	—	—	13.5
Utah	6.2	—	a	6.2	—
Virginia	2.8	.1	—	2.7	—
Washington	1.4	a	1.1	.3	a
West Virginia	37.7	—	—	37.7	—
Wyoming	68.4	—	64.2	4.4	—

a. Less than 50 million short tons.
Source: U.S. Department of Energy, Energy Information Administration, *Coal Production 1988*.

TABLE 2-2

SUMMARY OF ANNUAL ESTIMATES OF PROVED RESERVES OF NATURAL GAS IN THE UNITED STATES, 1976–1989

(Billions of Cubic Feet)

	Changes in Reserves During Year									
Year	Net of Corrections and Adjustments (1)	Revision Increases (2)	Revision Decreases (3)	Extensions to Old Reservoirs (4)	New Reservoir Discoveries in Old Fields (5)	New Field Discoveries (6)	Total Discoveries[a] (7)	Production Dry (8)	Proved Reserves[b] 12/31 (9)	Net Change From Prior Year (10)
1976	—	—	—	—	—	—	—	—	213,278[c]	—
1977	(20)[d]	13,691	15,296	8,129	3,301	3,173	14,603	18,843	207,413	(5,865)
1978	2,429	14,969	15,994	9,582	4,579	3,860	18,021	18,805	208,033	620
1979	(2,264)	16,410	16,629	8,950	2,566	3,188	14,704	19,257	200,997	(7,036)
1980	1,201	16,972	15,923	9,357	2,577	2,539	14,473	18,699	199,021	(1,976)
1981	1,627	16,412	13,813	10,491	2,998	3,731	17,220	18,737	201,730	2,709
1982	2,378	19,795	19,340	8,349	3,419	2,687	14,455	17,506	201,512	(218)
1983	3,090	17,602	17,617	6,909	2,965	1,574	11,448	15,788	200,247	(1,265)
1984	(2,241)	17,841	14,712	8,299	2,686	2,536	13,521	17,193	197,463	(2,784)
1985	(1,708)	18,775	16,304	7,169	2,960	999	11,128	15,985	193,369	(4,094)
1986	1,320	21,269	17,697	6,065	1,771	1,099	8,935	15,610	191,586	(1,783)
1987	1,268	17,527	14,231	4,587	1,499	1,089	7,175	16,114	187,211	(4,375)
1988	2,193	23,367	38,427[e]	6,803	1,909	1,638	10,350	16,670	168,024[e]	(19,187)
1989	3,013	26,673	23,634	6,339	2,243	1,450	10,032	16,983	167,116	(908)

a. Col. 4+Col. 5+Col. 6=Col. 7.

b. Proved reserves= Prior year Col. 9+Col. 1+Col. 2−Col. 3+Col. 7− Col. 8.

c. Based on following year data only.

d. Consists only of reported corrections.

e. An unusually large revision decrease to North Slope dry natural gas reserves was made in 1988.

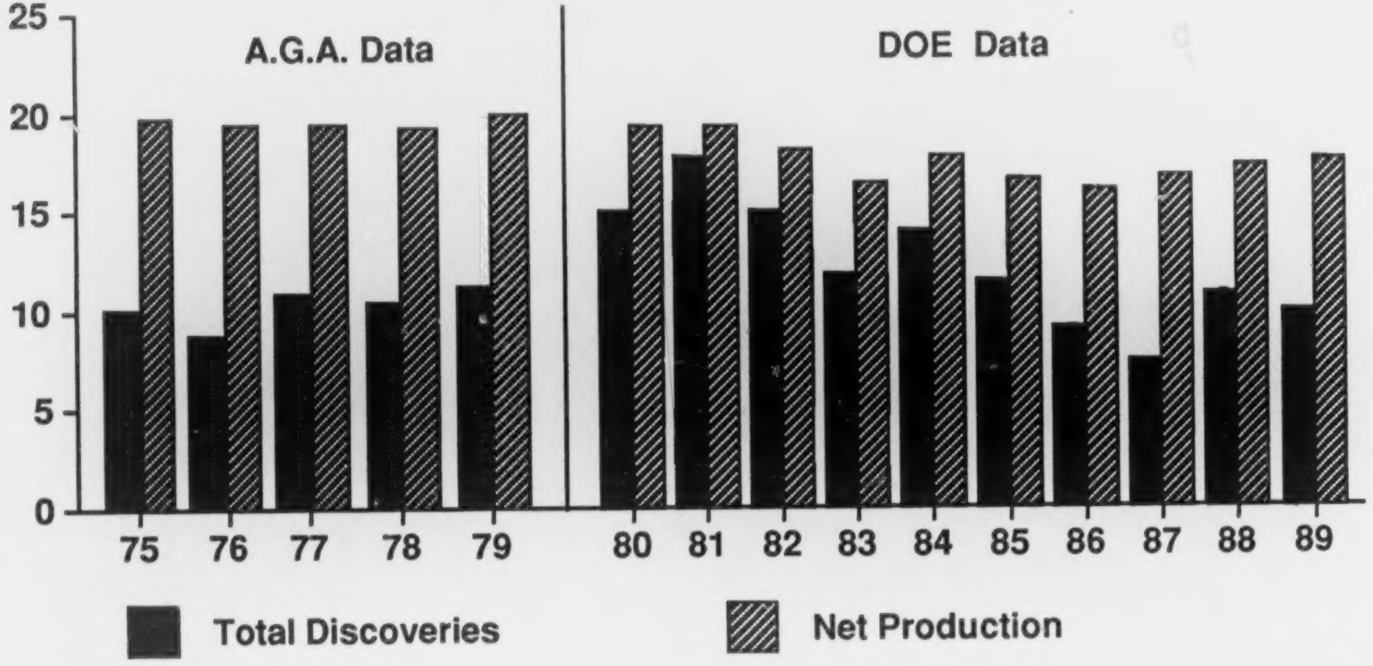
Note: "Old" means discovered in a prior year. "New" means discovered during the report year.

Source: U.S. Department of Energy, Energy Information Administration, *U.S. Crude Oil, Natural Gas, and Natural Gas Liquids Reserves*, 1989 Annual Report.

CHART 2-2

NET PRODUCTION AND TOTAL DISCOVERIES OF GAS RESERVES

(TRILLIONS OF CUBIC FEET)

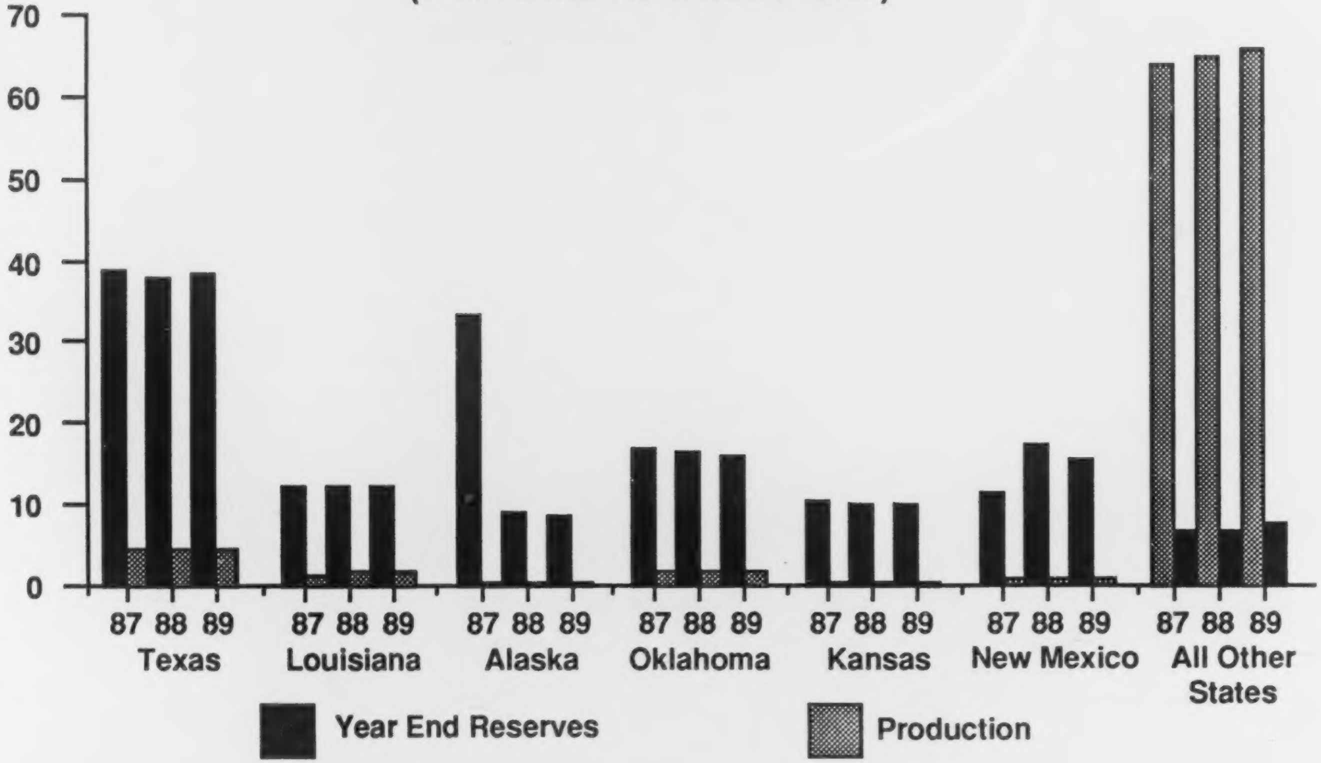


REFERENCE: TABLES 2-1, 2-2

CHART 2-3

NATURAL GAS STATE RESERVES FOR 1987, 1988 & 1989

(TRILLIONS OF CUBIC FEET)



REFERENCE: TABLE 2-3

TABLE 2-4

SUMMARY OF ANNUAL ESTIMATES OF PROVED RESERVES OF NATURAL GAS LIQUIDS IN THE UNITED STATES, 1978–1989

(Millions of Barrels)[a]

Year	Net of Corrections and Adjustments (1)	Revision Increases (2)	Revision Decreases (3)	Extensions to Old Reservoirs (4)	New Reservoir Discoveries in Old Fields (5)	New Field Discoveries (6)	Total Discoveries[b] (7)	Production (8)	Proved Reserves[c] 12/31 (9)	Net Change From Prior Year (10)
1978	—	—	—	—	—	—	—	—	6,772[d]	—
1979	64[e]	677	726	364	97	94	555	727	6,615	(157)
1980	153	743	639	418	79	90	587	731	6,728	113
1981	231	729	643	542	91	131	764	741	7,068	340
1982	299	811	832	375	109	112	596	721	7,221	153
1983	849	847	781	321	99	70	490	725	7,901	680
1984	(123)	866	724	348	96	55	499	776	7,643	(258)
1985	426	906	744	337	85	44	466	753	7,944	301
1986	367	1,030	807	263	72	34	369	738	8,165	221
1987	231	847	656	213	55	39	307	747	8,147	(18)
1988	11	1,168	715	268	72	41	381	754	8,238	91
1989	(277)	1,143	1,020	259	74	83	416	731	7,769	(469)

a. Barrel = 42 U.S. gallons.
b. Col. 4 + Col. 5 + Col. 6 = Col. 7.
c. Proved Reserves = Prior year Col. 9 + Col. 1 + Col. 2 − Col. 3 + Col. 7 − Col. 8.
d. Based on following year data only.
e. Consists only of reported corrections.
Note: "Old" means discovered in a prior year. "New" means discovered during the report year.
Source: U.S. Department of Energy, Energy Information Administration, *U.S. Crude Oil, Natural Gas and Natural Gas Liquids Reserves,* 1989 Annual Report.

TABLE 2-8

CHANGES IN ESTIMATED PROVED RESERVES OF CRUDE OIL, IN THE UNITED STATES BY STATE, DURING 1989

(Millions of Barrels)[a]

State and Subdivision	Published Proved Reserves 12/31/88	Changes in Reserves During 1989: Net of Corrections and Adjustments	Revision Increases	Revision Decreases
(1) Total United States	**26,825**	**213**	**2,698**	**1,365**
(2) Alabama	54	(2)	5	6
(3) Alaska	6,959	(1)	260	40
(4) Arkansas	77	(3)	12	10
(5) California	4,879	(39)	401	121
(6) Coastal Region Onshore	576	159	78	50
(7) Los Angeles Basin Onshore	391	(59)	64	28
(8) San Joaquin Basin Onshore	3,439	(136)	253	35
(9) State Offshore	473	(3)	6	8
(10) Colorado	257	26	104	9
(11) Florida	59	1	0	3
(12) Illinois	143	(7)	7	4
(13) Indiana	22[b]	(3)	0	0
(14) Kansas	327	57	24	21
(15) Kentucky	34[b]	(2)	3	0
(16) Louisiana	800	(5)	142	115
(17) North	154	(15)	20	21
(18) South Onshore	511	10	96	86
(19) State Offshore	135	0	26	8
(20) Michigan	132	1	19	11
(21) Mississippi	221	7	53	45
(22) Montana	241	4	19	19
(23) Nebraska	42	(9)	5	1
(24) New Mexico	661	17	79	42
(25) East	621	5	76	37
(26) West	40	12	3	5
(27) North Dakota	216	41	36	22
(28) Ohio	64	0	3	2
(29) Oklahoma	796	4	176	110
(30) Pennsylvania	27[b]	(2)	3	0
(31) Texas	7,043	77	687	330
(32) District 1	136	(6)	10	7
(33) District 2 Onshore	117	5	7	5
(34) District 3 Onshore	360	(23)	42	29
(35) District 4 Onshore	65	17	13	8
(36) District 5	48	(4)	7	4
(37) District 6	685	(2)	35	26
(38) District 7B	205	6	50	40
(39) District 7C	212	(13)	86	17
(40) District 8	2,107	59	199	72
(41) District 8A	2,800	30	198	106
(42) District 9	202	16	18	6
(43) District 10	99	(8)	21	9
(44) State Offshore	7	0	1	1
(45) Utah	260	(8)	29	18
(46) West Virginia	33	(3)	3	1
(47) Wyoming	815	(1)	143	55
(48) Federal Offshore	2,629	61	480	375
(49) Miscellaneous[c]	34	2	5	5

a. Barrel = 42 U.S. gallons.

b. Indicates that the estimate is associated with a sampling error (95 percent confidence interval) which exceeds 20 percent of the estimated value.

c. Includes Arizona, Missouri, Nevada, New York, South Dakota, Tennessee, and Virginia.

Source: U.S. Department of Energy, Energy Information Administration, *U.S. Crude Oil, Natural Gas, and Natural Gas Liquids Reserves*, 1989 Annual Report.

TABLE 2-8 (Continued)
CHANGES IN ESTIMATED PROVED RESERVES OF CRUDE OIL, IN THE UNITED STATES BY STATE, DURING 1989

(Millions of Barrels)[a]

Changes in Reserves During 1989					
Extensions	New Field Discoveries	New Reservoir Discoveries in Old Fields	Production	Proved Reserves 12/31/89	
514	**112**	**90**	**2,586**	**26,501**	**(1)**
1	0	0	9	43	(2)
172	4	3	683	6,674	(3)
0	0	0	10	66	(4)
29	0	0	333	4,816	(5)
3	0	0	35	731	(6)
8	0	0	34	342	(7)
18	0	0	238	3,301	(8)
0	0	0	26	442	(9)
11	1	2	33	359	(10)
0	0	0	7	50	(11)
2	0	0	18	123	(12)
0	0	0	3	16[b]	(13)
4	1	0	54	338	(14)
2	0	0	4	33	(15)
30	0	7	114	745	(16)
4	0	1	20	123	(17)
17	0	5	74	479	(18)
9	0	1	20	143	(19)
4	1	0	18	128	(20)
2	1	5	26	218	(21)
1	0	0	21	225	(22)
0	0	0	5	32	(23)
14	0	0	64	665	(24)
13	0	0	59	619	(25)
1	0	0	5	46	(26)
8	1	1	35	246	(27)
0	0	0	9	56	(28)
18	0	4	99	789	(29)
0	0	0	2	26	(30)
120	5	15	651	6,966	(31)
22	0	0	16	139	(32)
1	0	1	19	107	(33)
10	0	5	58	307	(34)
3	0	1	14	77	(35)
7	0	0	8	46	(36)
2	1	0	64	631	(37)
7	0	0	24	204	(38)
7	0	1	29	247	(39)
34	3	6	185	2,151	(40)
19	1	1	189	2,754	(41)
1	0	0	31	200	(42)
7	0	0	13	97	(43)
0	0	0	1	6	(44)
1	0	0	18	246	(45)
0	0	0	2	30	(46)
8	5	0	90	825	(47)
79	93	53	273	2,747	(48)
8	0	0	5	39	(49)

TABLE 2-10

ESTIMATED ESTABLISHED REMAINING MARKETABLE RESERVES OF NATURAL GAS IN CANADA, BY PROVINCE, 1989[a]

(Millions of Cubic Feet)

Province	Remaining Reserves December 31, 1988	Change During Year	Remaining Reserves At December 31, 1989		
			Total[b]	Net Non-associated	Associated/ Disolved
Canada	**94,787,604**	**2,197,204**	**96,984,808**	**84,627,559**	**12,357,248**
Total West Canada	**94,134,200**	**2,225,243**	**96,359,444**	**84,002,408**	**12,357,037**
Alberta	59,915,333	621,318	60,536,651	50,557,518	9,979,133
Arctic Islands	14,423,587	—	14,423,587	13,382,556	1,041,031
Br. Columbia	7,457,020	294,562	7,751,582	7,373,184	378,399
Mackenzie Delta	9,942,859	660,183	10,603,042	9,740,544	862,498
Mainland Territories	397,707	(7,738)	389,970	385,675	4,295
Saskatchewan	1,997,694	656,918	2,654,612	2,562,931	91,681
Total East Canada	**653,404**	**(28,039)**	**625,364**	**625,151**	**211**
Ontario	649,926	(27,756)	622,170	622,170	—
Other E. Canada	3,478	(283)	3,194	2,981	211

a. Volumes are calculated at a pressure base of 14.65 psia and at a standard temperature of 60°F.
b. Underground storage not included.
( ): Denotes negative volume.
Source: Same as Table 2–9.

TABLE 2-11

CHANGES IN ESTIMATED ESTABLISHED REMAINING MARKETABLE RESERVES OF NATURAL GAS IN CANADA, BY PROVINCE, DURING 1989[a]

(Millions of Cubic Feet)

Province	Remaining Reserves December 31, 1988	Gross Additions	Net Production[b]	Remaining Reserves December 31, 1989
Canada	**94,787,604**	**5,819,091**	**3,621,887**	**96,984,808**
Total West Canada	**94,134,200**	**5,816,960**	**3,591,717**	**96,359,444**
Alberta	59,915,333	3,652,908	3,031,590	60,536,651
Arctic Islands	14,423,587	—	—	14,423,587
Br. Columbia	7,457,020	678,250	383,687	7,751,582
Mackenzie Delta	9,942,859	660,183	—	10,603,042
Mainland Territories	397,707	(3,869)	3,869	389,970
Saskatchewan	1,997,694	829,488	172,571	2,654,612
Total East Canada	**653,404**	**2,131**	**30,170**	**625,364**
Ontario	649,926	1,810	29,566	622,170
Other E. Canada	3,478	321	604	3,194

a. Volumes are calculated at a pressure base of 14.65 psia and at a standard temperature of 60°F.
b. Includes net change in underground storage.
( ): Denotes negative volume.
Source: Same as Table 2-9.

SECTION 3
NATURAL GAS SUPPLY

	1989	% Change 89/88
Maximum Day Sendout (Trillions of Btu)	87.2	+ 9.7
Production (wet) (Trillions of Btu)	19,756	+ 0.1*
Net Imports (Millions of cubic feet)	1,381,520	+ 6.8
Producing Gas Wells	261,139	+ 1.5*
New Gas Well Completions	6,156	+11.2**

*Percentage change based on preliminary data for both years.
**As estimated by the Energy Information Administration at year end.

Beginning in January 1985, the method of reporting oil and gas well completions changed significantly. Because a substantial time lag exists between the date a well is actually completed and the date a report on the well is received by the American Petroleum Institute (API), publishing data on an "as reported" basis does not accurately reflect the timing of completion activity. A new methodology involves reporting completions on the basis of when the completions occurred. However, in some cases, it can take over two years before a well completion is reported to the API and reflected in their published data.

As a result, well completion data may not necessarily be comparable from year to year due to the constant updating to the well completion data provided by the API.

For those tables where both total U.S. and individual state data are published, the individual state data is "as reported" and for recent periods may be subject to significant revision. The total U.S. figures reflect *estimates* by API of the number of completion reports which will ultimately be received.

Please refer to American Gas Association, *Gas Energy Review*, April 1986, Volume 14, Number 4 for further details.

TABLE 2-7

SUMMARY OF ANNUAL ESTIMATES OF PROVED RESERVES OF CRUDE OIL IN THE UNITED STATES, 1976–1989

(Millions of Barrels)[a]

Year	Net of Corrections and Adjustments (1)	Revision Increases (2)	Revision Decreases (3)	Extensions to Old Reservoirs (4)	New Reservoir Discoveries in Old Fields (5)	New Field Discoveries (6)	Total Discoveries[b] (7)	Production (8)	Proved Reserves[c] 12/31 (9)	Net Change From Prior Year (10)
1976	—	—	—	—	—	—	—	—	33,502[d]	—
1977	(40)[e]	1,503	1,117	496	130	168	794	2,862	31,780	(1,722)
1978	366	2,799	1,409	444	116	267	827	3,008	31,355	(425)
1979	337	2,438	2,001	424	104	108	636	2,955	29,810	(1,545)
1980	219	2,883	994	572	147	143	862	2,975	29,805	(5)
1981	138	2,151	880	750	157	254	1,161	2,949	29,426	(379)
1982	(83)	2,245	1,811	634	193	204	1,031	2,950	27,858	(1,568)
1983	462	2,810	1,299	629	190	105	924	3,020	27,735	(123)
1984	159	3,672	1,227	744	158	242	1,144	3,037	28,446	711
1985	429	3,037	1,439	742	169	84	995	3,052	28,416	(30)
1986	57	2,724	1,869	405	81	48	534	2,973	26,889	(1,527)
1987	233	3,687	1,371	484	111	96	691	2,873	27,256	367
1988	364	2,684	1,221	355	127	71	553	2,811	26,825	(431)
1989	213	2,698	1,365	514	90	112	716	2,586	26,501	(324)

a. Barrel = 42 U.S. gallons.
b. Col. 4 + Col. 5 + Col. 6 = Col. 7.
c. Proved Reserves = Prior year Col. 9 + Col. 1 + Col. 2 − Col. 3 + Col. 7 − Col. 8.
d. Based on following year data only.
e. Consists only of reported corrections.

Note: "Old" means discovered in a prior year. "New" means discovered during the report year.

Source: U.S. Department of Energy, Energy Information Administration, *U.S. Crude Oil, Natural Gas, and Natural Gas Liquids Reserves*, 1989 Annual Report.

TABLE 2-9
SUMMARY OF ANNUAL ESTIMATES OF RESERVES OF NATURAL GAS IN CANADA, 1971–1989[a]

(Millions of Cubic Feet)

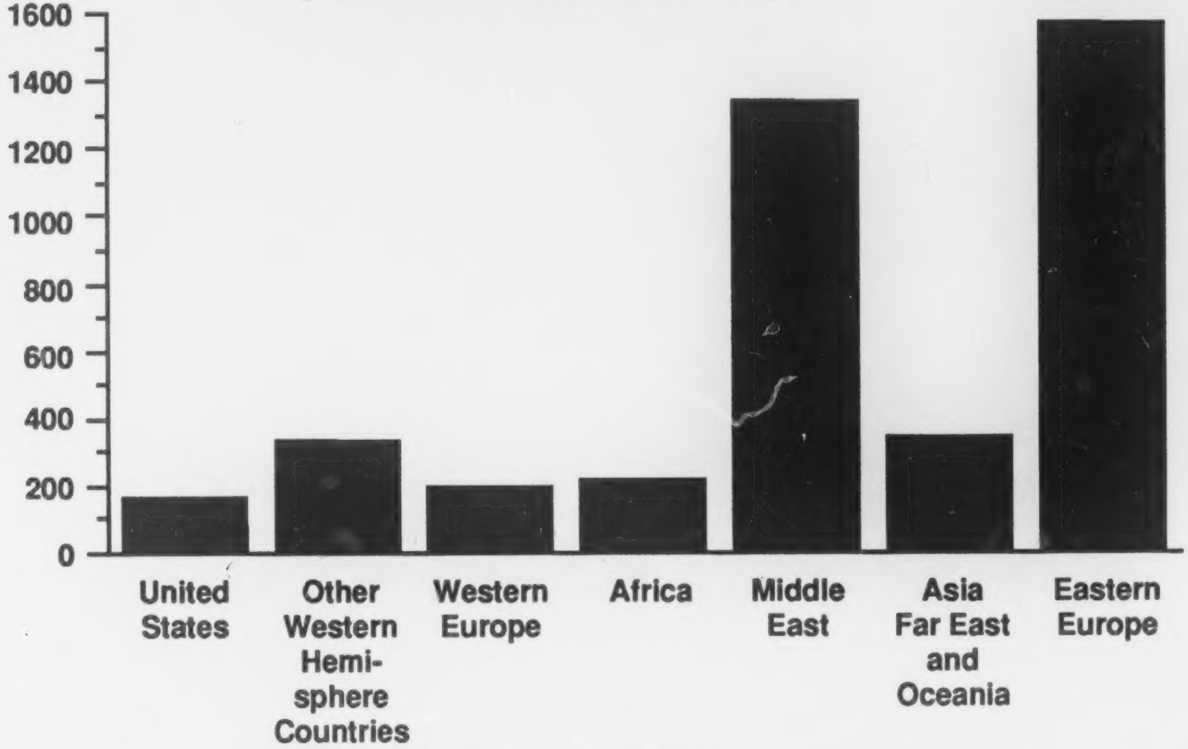
	Reserves Remaining at Beginning of Year	Changes Due To						Reserves Remaining at End of Year	Change During Year	Probable Remaining at End of Year[b]
		Revisions	Revisions and Extensions	Extensions	Discoveries	Net Change in Underground Storage	Net Production			
MARKETABLE GAS[c]										
1971	53,375,628	983,556	—	2,280,205	775,500	65	1,953,104	55,461,850	2,086,222	61,964,760
1972	55,461,850	(2,004,125)	—	1,243,897	487,538	(5,580)	2,247,798	52,935,782	(2,526,068)	60,546,769
1973	52,935,782	(167,054)	—	1,257,243	686,714	70,097	2,325,350	52,457,432	(478,350)	60,801,088
1974	52,457,432	2,953,557	—	3,487,099	193,056	10,428	2,393,486	56,708,086	4,250,654	64,459,133
1975	56,708,086	(177,606)	—	2,412,582	362,895	29,869	2,361,110	56,974,716	266,630	71,466,773
1976	56,974,716	(367,880)	—	3,587,990	639,345	(11,053)	2,541,176	58,281,942	1,307,226	76,359,832
1977	58,281,942	1,432,871	—	1,852,325	351,007	46,730	2,492,849	59,472,026	1,190,084	78,031,771
ESTABLISHED RESERVES										
1977	76,835,973	d	—	d	d	46,709	2,492,850	79,180,390	2,344,416	—
1978	79,180,390	2,026,962	—	2,534,342	1,018,734	3,443	2,340,406	82,423,467	3,243,077	—
1979	82,423,467	3,012,475	—	2,062,527	3,347,747	10,613	2,263,030	88,593,799	6,170,332	—
1980	88,594,374	62,043	—	1,408,320	900,050	(33,222)	2,486,016	88,445,549	(148,825)	—
1981	88,461,174	2,234,086	—	2,062,408	624,303	9,372	2,405,800	90,985,543	2,524,369	—
1982	90,985,541	1,750,541	—	1,425,609	214,029	73,450	2,466,895	91,982,275	996,734	—
1983	91,966,031	1,899,412	—	982,360	223,149	(114,502)	2,225,705	92,730,743	764,712	—
1984	92,730,742	d	—	d	d	d	2,804,502[e]	99,687,016	6,956,274	—
1985	99,145,610	d	—	d	d	d	2,909,576	98,275,160	(870,450)	—
1986	98,811,812	d	—	d	d	d	2,731,846	97,448,391	(1,363,421)	—
1987	97,448,391	d	—	d	d	d	2,834,813	95,576,913	(1,871,478)	—
1988	95,576,913	d	—	d	d	d	3,588,700	94,787,604	(789,310)	—
1989	94,787,604	d	—	d	d	d	3,621,887	96,984,808	2,197,204	—

a. Volumes are calculated at a pressure base of 14.65 psia and at a standard temperature of 60°F.
b. Includes proved reserves.
c. For definition refer to Glossary.
d. Not available.
e. Includes net change in underground storage.
( ): Denotes negative volume.
Source: Canadian Petroleum Association.

CHART 2-4

WORLD ESTIMATED NATURAL GAS RESERVES, 1989

(TRILLIONS OF CUBIC FEET)



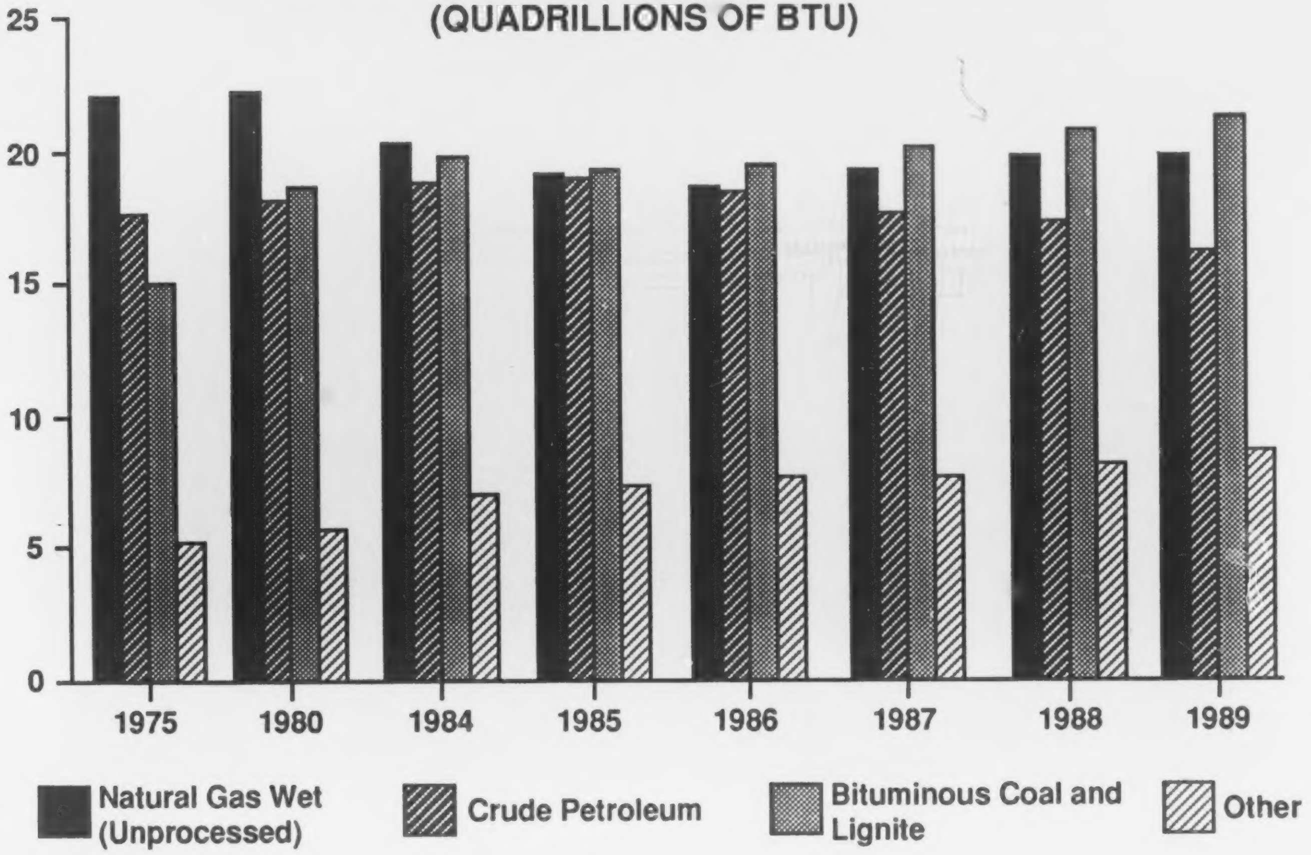
WORLD TOTAL 4,173 TRILLION CUBIC FEET

SOURCE: WORLD OIL, August 1990

CHART 3-1

UNITED STATES ENERGY PRODUCTION

(QUADRILLIONS OF BTU)



REFERENCE: TABLE 3-1

SUPPLY

TABLE 3-1
ANNUAL PRODUCTION OF FOSSIL ENERGY RESOURCES, AND ELECTRICITY FROM HYDROPOWER AND NUCLEAR POWER, IN THE UNITED STATES, 1975-1989[a]

(Trillions of Btu)

Year	Natural Gas Wet (unprocessed)	Crude Petroleum	Bituminous Coal and Lignite	Anthracite Coal	Hydropower[b]	Nuclear[c]	Other[d]	Grand Total Energy
1975	22,014	17,729	14,990	e	3,155	1,900	72	59,860
1976	21,807	17,262	15,654	e	2,976	2,111	81	59,891
1977	21,892	17,454	15,755	e	2,333	2,702	82	60,218
1978	21,730	18,434	14,910	e	2,937	3,024	68	61,103
1979	22,362	18,104	17,539	e	2,931	2,776	89	63,801
1980	22,162	18,249	18,597	e	2,900	2,739	114	64,761
1981	22,006	18,146	18,376	e	2,758	3,008	127	64,421
1982	20,446	18,309	18,639	e	3,266	3,131	108	63,898
1983	18,714	18,392	17,246	e	3,527	3,203	133	61,215
1984	20,205	18,848	19,719	e	3,348	3,553	174	65,847
1985	19,147	18,992	19,325	e	2,939	4,149	213	64,765
1986	18,620	18,376	19,510	e	3,017	4,471	231	64,225
1987	19,264	17,675	20,142	e	2,593	4,906	244	64,823
1988[R]	19,745	17,279	20,737	e	2,314	5,661	235	65,971
1989[P]	19,756	16,155	21,227	e	2,745	5,687	217	65,788

a. The 1989 unit heat values employed are: Anthracite, 11,122 Btu per pound; bituminous coal and lignite, 10,632 Btu per pound; petroleum approx. 5,800,000 Btu per barrel; natural gas dry 1,029 Btu per cubic foot; natural gas liquids obtained by using 90,786 Btu per gallon.

b. Hydropower output is converted to theoretical energy inputs calculated from national average heat rates for fossil-fueled steam-electric plants.

c. Nuclear power energy input conversion is calculated annually by the Energy Information Administration.

d. Includes geothermal power and electricity produced from wood and waste.

e. Included in "Bituminous Coal and Lignite."

R–Revised. P–Preliminary.

Source: Prior to 1977 U.S. Bureau of Mines, for 1977 and beyond, data taken from U.S. Department of Energy, Energy Information Administration, *Monthly Energy Review*.

TABLE 3-2
ANNUAL PRODUCTION OF FOSSIL ENERGY RESOURCES, AND ELECTRICITY FROM HYDROPOWER AND NUCLEAR POWER, IN THE UNITED STATES, 1975-1989

(Percentage)

Year	Natural Gas Wet (unprocessed)	Crude Petroleum	Bituminous Coal and Lignite	Anthracite Coal	Hydropower	Nuclear	Other[a]	Grand Total Energy
1975	36.8	29.6	25.0	b	5.3	3.2	.1	100.0
1976	36.4	28.8	26.2	b	5.0	3.5	.1	100.0
1977	36.4	29.0	26.1	b	3.9	4.5	.1	100.0
1978	35.6	30.2	24.4	b	4.8	4.9	.1	100.0
1979	35.0	28.4	27.5	b	4.6	4.4	.1	100.0
1980	34.2	28.2	28.7	b	4.5	4.2	.2	100.0
1981	34.1	28.2	28.5	b	4.3	4.7	.2	100.0
1982	32.0	28.6	29.2	b	5.1	4.9	.2	100.0
1983	30.6	30.1	28.2	b	5.7	5.2	.2	100.0
1984	30.7	28.6	30.0	b	5.0	5.4	.3	100.0
1985	29.6	29.3	29.8	b	4.5	6.4	.3	100.0
1986	29.0	28.6	30.4	b	4.7	7.0	.3	100.0
1987[R]	29.7	27.3	31.1	b	4.0	7.6	.4	100.0
1988[R]	29.9	26.2	31.4	b	3.5	8.6	.4	100.0
1989[P]	30.0	24.6	32.3	b	4.2	8.6	.3	100.0

a. Includes geothermal power and electricity produced from wood and waste.

b. Included in "Bituminous Coal and Lignite."

R–Revised. P–Preliminary.

Source: Same as Table 3-1.

TABLE 3-4
GAS UTILITY INDUSTRY, GAS SUPPLY AND DISPOSITION, 1975–1989[a]

(Trillions of Btu)

	Amount						
	1975	1980	1985	1986	1987	1988[R]	1989
Supply—Produced and Purchased—Total	**16,811.5**	**17,276.4**	**14,164.1**	**12,607.8**	**11,923.6**	**11,923.0**	**11,354.2**
Natural Gas	16,490.1	16,935.3	14,016.1	12,514.0	11,853.5	11,845.3	11,278.9
Manufactured Gas	19.3	8.8	3.8	3.2	5.3	7.2	5.8
Liquefied Petroleum Gas	24.8	17.9	6.5	6.3	5.2	8.1	6.7
Substitute Natural Gas	261.3	198.4	76.4	43.9	20.1	16.2	14.9
Liquefied Natural Gas	8.4	79.6	24.7	6.4	6.4	8.5	12.6
Unclassified	7.6	36.4	36.6	34.0	33.1	37.7	35.2
Disposition—Total	**16,811.5**	**17.276.4**	**14,164.1**	**12,607.8**	**11,923.6**	**11,923.0**	**11,354.2**
Used in Production of Other Gases[b]	124.2	95.0	66.6	130.7	58.8	76.9	122.9
Company Use as a Fuel[c]	1,089.3	1,278.7	1,107.3	855.3	902.3	908.8	797.4
Sales to Ultimate Consumers	14,862.9	15,413.2	12,615.2	11,125.1	10,543.4	10,705.3	10,551.1
Other Deliveries (Net)	83.9	85.8	132.6	17.6	114.1	144.0	63.2
Placed in Storage (Net)	348.8	16.9	(326.2)	170.9	(102.2)	(2.1)	(500.8)
Unaccounted For[d]	302.4	386.8	568.6	308.2	407.2	90.1	320.4

a. Total supply figures involve some double counting. For production of supplementals see Table 3-16.
b. Includes Natural Gas used for enriching, reforming and mixing.
c. Includes interdepartmental transfers.
d. Represents difference between supply and disposition, and should not be interpreted as a reliable measure of transmission efficiency.
R–Revised.

TABLE 3-5
GAS UTILITY INDUSTRY, MAXIMUM AND MINIMUM DAY SENDOUT[a] BY SOURCE OF SUPPLY, 1982–1989[b]

(Trillions of Btu)

	1982	1983	1984	1985	1986	1987	1988[R]	1989
Maximum Day Sendout—Total	**83.6**	**77.4**	**79.7**	**76.8**	**72.8**	**73.4**	**79.5**	**87.2**
Peak Shaving Facilities	3.4	2.5	1.8	2.8	1.4	0.9	1.9	2.2
Underground Storage Withdrawal	42.4	44.1	38.5	44.2	39.7	37.8	39.4	47.9
Regular Production and Purchases	37.8	30.8	39.4	29.8	31.7	34.7	38.2	37.1
Minimum Day Sendout—Total	**13.7**	**13.1**	**13.6**	**12.0**	**14.3**	**14.5**	**15.9**	**17.4**

a. Represents summation of all companies maximum/minimum day sendout, and is non-coincident.
b. Excludes sendout of pipeline companies to avoid duplication. Underground storage withdrawals include amounts from fields operated by both distributors and pipelines.
R–Revised.

TABLE 3-6
GROSS PRODUCTION OF NATURAL GAS, BY STATE, 1975-1988[a]

(Millions of Cubic Feet)

Division and State	1975	1980	1984	1985	1986	1987	1988
United States	**21,103,530**	**21,869,692**	**20,191,820**	**19,534,475**	**19,062,947**	**20,055,835**	**20,880,157**
New England	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Middle Atlantic	**92,400**	**113,089**	**193,942**	**185,568**	**193,573**	**191,796**	**194,556**
New Jersey	0	0	0	0	0	0	0
New York	7,628	15,650	27,600	35,334	33,684	28,478	27,467
Pennsylvania	84,772	97,439	166,342	150,234	159,889	163,318	167,089
East North Central	**191,497**	**305,003**	**338,605**	**321,455**	**317,275**	**321,488**	**320,249**
Illinois	1,440	1,574	1,530	1,324	1,887	1,371	1,338
Indiana	346	463	394	367	365	217	412
Michigan	103,901	164,110	150,201	137,519	132,951	153,307	151,809
Ohio	85,810	138,856	186,480	182,245	182,072	166,593	166,690
Wisconsin	0	0	0	0	0	0	0
West North Central	**877,137**	**791,315**	**550,921**	**604,140**	**541,722**	**535,090**	**649,330**
Iowa	0	0	0	0	0	0	0
Kansas	846,164	737,246	467,382	514,415	466,897	458,426	577,815
Minnesota	0	0	0	0	0	0	0
Missouri	30	0	0	4	4	4	4
Nebraska	3,963	2,550	2,300	1,944	1,403	1,261	910
North Dakota	26,941	50,321	78,752	84,631	70,955	71,737	66,318
South Dakota	39	1,198	2,483	3,146	2,463	3,662	4,283
South Atlantic	**205,683**	**210,852**	**166,585**	**171,567**	**160,644**	**188,696**	**209,118**
Delaware	0	0	0	0	0	0	0
District of Columbia	0	0	0	0	0	0	0
Florida	44,383	46,421	13,867	11,604	9,766	9,132	8,407
Georgia	0	0	0	0	0	0	0
Maryland	93	68	60	39	20	44	29
North Carolina	0	0	0	0	0	0	0
South Carolina	0	0	0	0	0	0	0
Virginia	6,723	7,812	8,928	15,041	15,427	19,520	18,682
West Virginia	154,484	156,551	143,730	144,883	135,431	160,000	182,000
East South Central	**192,544**	**385,362**	**412,235**	**413,130**	**439,370**	**452,958**	**487,963**
Alabama	38,921	111,836	136,427	143,420	145,625	155,143	175,054
Kentucky	60,511	57,180	61,518	73,126	80,195	70,125	73,629
Mississippi	92,500	215,105	209,268	191,898	210,086	224,983	237,180
Tennessee	612	1,241	5,022	4,686	3,464	2,707	2,100
West South Central	**17,073,397**	**16,810,823**	**14,748,981**	**13,913,317**	**13,691,753**	**14,064,468**	**14,464,137**
Arkansas	121,518	127,696	162,744	181,959	153,165	166,998	190,678
Louisiana	7,242,408	7,008,489	5,888,043	5,218,098	4,964,758	5,204,984	5,248,205
Oklahoma	1,720,698	2,018,577	1,985,869	1,936,341	1,917,493	2,004,797	2,106,632
Texas	7,988,773	7,656,061	6,712,325	6,576,919	6,656,337	6,687,689	6,918,622
Mountain	**1,849,992**	**1,952,333**	**1,996,753**	**1,981,297**	**1,780,632**	**2,075,183**	**2,165,880**
Arizona	255	357	227	209	185	185	179
Colorado	174,145	191,806	180,616	189,565	175,618	186,286	212,030
Idaho	0	0	0	0	0	0	0
Montana	44,547	53,802	52,930	54,151	48,246	47,845	53,014
Nevada	0	0	0	0	0	0	0
New Mexico	1,227,200	1,168,049	978,236	926,174	721,217	845,478	811,994
Utah	77,607	87,766	184,606	213,302	238,388	261,911	277,910
Wyoming	326,238	450,553	600,138	597,896	596,978	733,478	810,753
Pacific	**620,880**	**1,300,915**	**1,783,798**	**1,944,001**	**1,937,978**	**2,226,156**	**2,388,924**
Alaska	253,227	893,759	1,206,370	1,343,553	1,375,054	1,694,870	1,933,047
California	367,653	407,151	574,638	596,368	558,324	527,486	451,877
Hawaii	0	0	0	0	0	0	0
Oregon	0	5	2,790	4,080	4,600	3,800	4,000
Washington	0	0	0	0	0	0	0
Other States	**0**	**0**	**0**	**0**	**0**	**0**	**0**

a. Includes gas (mostly residue gas) blown to the air, but does not include direct waste on producing properties, except where data is available.

Source: U.S. Department of Energy, Energy Information Administration, *Natural Gas Annual*, 1988.

TABLE 3-7
NET WELLHEAD PRODUCTION OF NATURAL GAS, BY STATE, 1975-1988[a]

(Millions of Cubic Feet)

Division and State	1975	1980	1984	1985	1986	1987	1988
United States	**20,242,574**	**20,504,238**	**18,561,668**	**17,619,278**	**17,225,395**	**17,848,276**	**18,410,723**
New England	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Middle Atlantic	**92,400**	**113,089**	**193,942**	**185,568**	**193,573**	**191,796**	**194,556**
New Jersey	0	0	0	0	0	0	0
New York	7,628	15,650	27,600	35,334	33,684	28,478	27,467
Pennsylvania	84,772	97,439	166,342	150,234	159,889	163,318	167,089
East North Central	**190,471**	**302,628**	**336,265**	**319,115**	**314,935**	**318,882**	**317,909**
Illinois	1,440	1,574	1,530	1,324	1,887	1,371	1,338
Indiana	346	463	394	367	365	217	412
Michigan	103,725	161,735	147,861	135,179	130,611	150,701	149,469
Ohio	84,960	138,856	186,480	182,245	182,072	166,593	166,690
Wisconsin	0	0	0	0	0	0	0
West North Central	**875,409**	**789,841**	**549,615**	**600,360**	**540,877**	**533,942**	**648,004**
Iowa	0	0	0	0	0	0	0
Kansas	844,471	735,772	466,447	513,387	466,144	457,509	576,852
Minnesota	0	0	0	0	0	0	0
Missouri	30	0	4	4	4	4	4
Nebraska	3,963	2,550	2,300	1,944	1,403	1,261	910
North Dakota	26,941	50,321	78,752	82,273	70,955	71,737	66,318
South Dakota	5	1,198	2,112	2,752	2,371	3,431	3,920
South Atlantic	**205,683**	**210,852**	**166,585**	**171,567**	**160,644**	**188,696**	**209,118**
Delaware	0	0	0	0	0	0	0
District of Columbia	0	0	0	0	0	0	0
Florida	44,383	46,421	13,867	11,604	9,766	9,132	8,407
Georgia	0	0	0	0	0	0	0
Maryland	93	68	60	39	20	44	29
North Carolina	0	0	0	0	0	0	0
South Carolina	0	0	0	0	0	0	0
Virginia	6,723	7,812	8,928	15,041	15,427	19,520	18,682
West Virginia	154,484	156,551	143,730	144,883	135,431	160,000	182,000
East South Central	**186,251**	**369,219**	**t391,890**	**390,809**	**402,219**	**413,017**	**425,571**
Alabama	38,921	108,702	123,870	128,651	127,387	137,293	151,610
Kentucky	60,511	57,180	61,518	73,126	80,195	70,125	73,629
Mississippi	86,207	202,096	201,480	184,346	191,173	202,892	198,232
Tennessee	612	1,241	5,022	4,686	3,464	2,707	2,100
West South Central	**16,387,930**	**16,273,072**	**14,311,030**	**13,336,432**	**13,262,065**	**13,576,213**	**13,939,413**
Arkansas	117,555	112,202	137,385	155,923	132,836	142,219	167,684
Louisiana	7,116,104	6,962,775	5,850,063	5,038,715	4,919,567	5,147,799	5,203,102
Oklahoma	1,637,212	1,917,379	1,985,869	1,936,341	1,917,493	2,004,797	2,106,632
Texas	7,517,059	7,280,716	6,337,713	6,205,453	6,292,169	6,281,398	6,461,995
Mountain	**1,813,914**	**1,898,955**	**1,830,208**	**1,790,095**	**1,567,806**	**1,819,132**	**1,921,487**
Arizona	255	357	227	209	185	185	179
Colorado	174,145	191,610	180,522	188,817	175,133	185,693	209,789
Idaho	0	0	0	0	0	0	0
Montana	43,936	53,572	52,759	53,954	48,060	47,637	52,800
Nevada	0	0	0	0	0	0	0
New Mexico	1,219,072	1,154,992	965,716	911,181	706,732	830,013	796,810
Utah	57,160	87,766	77,137	86,145	93,695	88,730	103,138
Wyoming	319,346	410,658	553,847	549,789	544,001	666,874	758,771
Pacific	**490,516**	**546,582**	**782,133**	**825,332**	**783,276**	**806,598**	**754,665**
Alaska	170,671	235,408	300,799	327,642	313,703	375,440	387,656
California	319,845	311,169	478,544	493,610	464,973	427,358	363,009
Hawaii	0	0	0	0	0	0	0
Oregon	0	5	2,790	4,080	4,600	3,800	4,000
Washington	0	0	0	0	0	0	0
Other States	**0**	**0**	**0**	**0**	**0**	**0**	**0**

a. As defined by A.G.A. "Net Wellhead Production" equals "Gross Production" less gas for repressuring (see Table 3-3) and therefore includes natural gas liquids.

Source: U.S. Department of Energy, Energy Information Administration, *Natural Gas Annual*, 1988.

TABLE 3-8
MARKETED PRODUCTION OF NATURAL GAS, BY STATE, 1975-1988[a]

(Millions of Cubic Feet)

Division and State	1975	1980	1984	1985	1986	1987	1988
United States	**20,108,661**	**20,378,787**	**18,453,756**	**17,524,496**	**17,127,761**	**17,724,570**	**18,268,196**
New England	**0**	**0**	**0**	**0**	**0**	**0**	0
Middle Atlantic	**92,304**	**113,082**	**191,542**	**181,795**	**189,853**	**188,994**	**190,544**
New Jersey	0	0	0	0	0	0	0
New York	7,628	15,643	25,200	31,561	29,964	25,676	23,455
Pennsylvania	84,676	97,439	166,342	150,234	159,889	163,318	167,089
East North Central	**188,859**	**299,195**	**332,941**	**315,791**	**311,611**	**315,177**	**314,585**
Illinois	1,440	1,574	1,530	1,324	1,887	1,371	1,338
Indiana	346	463	394	367	365	217	412
Michigan	102,113	158,302	144,537	131,855	127,287	146,996	146,145
Ohio	84,960	138,856	186,480	182,245	182,072	166,593	166,690
Wisconsin	0	0	0	0	0	0	0
West North Central	**871,006**	**781,124**	**546,964**	**596,667**	**533,435**	**530,712**	**644,655**
Iowa	0	0	0	0	0	0	0
Kansas	843,625	735,035	465,979	512,872	465,695	457,050	576,274
Minnesota	0	0	0	0	0	0	0
Missouri	30	0	4	4	4	4	4
Nebraska	2,565	2,550	2,300	1,944	1,403	1,261	910
North Dakota	24,786	42,346	76,734	79,289	64,102	68,966	63,547
South Dakota	0	1,193	1,947	2,558	2,231	3,431	3,920
South Atlantic	**205,683**	**210,175**	**166,524**	**171,553**	**160,590**	**188,370**	**208,694**
Delaware	0	0	0	0	0	0	0
District of Columbia	0	0	0	0	0	0	0
Florida	44,383	45,744	13,833	11,590	9,712	9,103	8,241
Georgia	0	0	0	0	0	0	0
Maryland	93	68	60	39	20	44	29
North Carolina	0	0	0	0	0	0	0
South Carolina	0	0	0	0	0	0	0
Virginia	6,723	7,812	8,901	15,041	15,427	19,223	18,424
West Virginia	154,484	156,551	0	144,883	135,431	160,000	182,000
East South Central	**172,697**	**349,417**	**380,199**	**385,284**	**396,063**	**407,550**	**418,235**
Alabama	37,814	105,527	122,041	127,224	126,077	135,938	149,786
Kentucky	60,511	57,180	61,518	73,126	80,195	70,125	73,629
Mississippi	74,345	185,469	191,618	180,248	186,327	198,780	192,720
Tennessee	27	1,241	5,022	4,686	3,464	2,707	2,100
West South Central	**16,298,056**	**16,195,435**	**14,251,542**	**13,279,819**	**13,210,081**	**13,520,529**	**13,883,635**
Arkansas	116,237	111,808	135,161	155,099	131,075	141,151	166,573
Louisiana	7,090,645	6,939,924	5,825,055	5,013,702	4,895,394	5,122,509	5,180,267
Oklahoma	1,605,410	1,891,824	1,985,869	1,936,341	1,917,493	2,004,797	2,106,632
Texas	7,485,764	7,251,879	6,305,457	6,174,677	6,266,119	6,252,072	6,430,163
Mountain	**1,801,478**	**1,889,983**	**1,815,697**	**1,776,751**	**1,554,464**	**1,784,977**	**1,864,934**
Arizona	208	214	45	85	63	60	56
Colorado	171,629	190,814	179,522	186,996	173,556	183,333	205,196
Idaho	0	0	0	0	0	0	0
Montana	40,734	51,867	51,967	52,494	46,592	46,456	51,654
Nevada	0	0	0	0	0	0	0
New Mexico	1,217,430	1,149,781	959,382	905,312	702,652	826,203	793,227
Utah	55,354	87,766	74,698	83,405	90,013	87,158	101,372
Wyoming	316,123	409,541	550,576	548,459	541,588	641,767	713,429
Pacific	**478,578**	**540,376**	**768,347**	**816,836**	**771,664**	**788,261**	**742,914**
Alaska	160,270	230,588	289,129	321,346	304,841	359,837	378,638
California	318,308	309,783	476,428	491,410	462,223	424,624	360,276
Hawaii	0	0	0	0	0	0	0
Oregon	0	5	2,790	4,080	4,600	3,800	4,000
Washington	0	0	0	0	0	0	0
Other States	**0**	**0**	**0**	**0**	**0**	**0**	**0**

[a] Includes 199,063 million cubic feet of nonhydrocarbon gases in 1980, 221,937 million cubic feet in 1983, 224,118 million cubic feet in 1984, 326,497 million cubic feet in 1985, 336,851 million cubic feet in 1986, 376,033 million cubic feet in 1987 and 459,883 million cubic feet in 1988.

Source: U.S. Department of Energy, Energy Information Administration, *Natural Gas Annual*, 1988.

TABLE 3-9
NATURAL GAS PRODUCTION PURCHASED BY ALL INTERSTATE NATURAL GAS PIPELINE COMPANIES, BY STATE, 1982-1988

(Millions of Cubic Feet)

Division and State	1982	1983	1984	1985	1986	1987	1988
Total United States	**10,933,412**	**9,496,902**	**10,421,625**	**8,917,751**	**7,578,336**	**6,655,016**	**5,804,155**
New England[a]	**0**	**0**	**0**	**0**	**0**	**15,547**	**16,523**
Middle Atlantic	**80,820**	**74,779**	**82,081**	**109,281**	**89,192**	**88,892**	**75,056**
New Jersey	0	0	0	0	0	0	0
New York	8,167	9,187	14,368	40,121	31,295	36,757	26,645
Pennsylvania	72,653	65,592	67,713	69,160	57,897	52,135	48,411
East North Central	**50,278**	**57,895**	**53,984**	**75,082**	**34,140**	**36,169**	**38,999**
Illinois	476	234	217	1,219	5,741	14,498	15,399
Indiana	38	8	0	0	0	0	2
Michigan	0	0	0	0	0	1,716	6,850
Ohio	49,764	57,653	53,767	73,863	28,399	19,955	16,748
Wisconsin	0	0	0	0	0	0	0
West North Central	**341,751**	**336,984**	**405,312**	**431,203**	**381,849**	**277,602**	**211,380**
Iowa	0	0	0	0	0	35,902	26,920
Kansas	310,949	299,843	379,346	407,636	359,193	223,904	167,339
Minnesota	0	0	3,335	0	0	0	0
Missouri	0	0	0	0	0	0	0
Nebraska	2,944	3,004	3,547	991	770	561	401
North Dakota	25,996	32,834	18,267	21,647	21,210	16,734	16,175
South Dakota	1,862	1,303	817	929	676	501	545
South Atlantic	**162,179**	**139,596**	**161,704**	**209,172**	**195,876**	**209,878**	**208,883**
Delaware	0	0	0	0	0	0	0
District of Columbia	0	0	0	0	0	0	0
Florida	7,724	6,385	2,915	2,769	1,888	2,189	2,038
Georgia	0	0	0	0	0	0	0
Maryland	37	31	60	35,616	22	45	71,495
North Carolina	0	0	0	0	0	0	0
South Carolina	0	0	0	0	0	0	0
Virginia	6,905	4,323	8,976	14,251	61,366	85,059	15,992
West Virginia	147,513	128,857	149,753	156,536	132,600	122,585	119,358
East South Central	**201,350**	**201,611**	**227,437**	**194,620**	**183,042**	**213,233**	**215,798**
Alabama	38,953	30,079	33,653	36,101	25,880	27,527	30,711
Kentucky	38,527	32,661	47,238	45,458	43,869	46,404	47,678
Mississippi	123,586	135,058	142,509	108,984	110,227	136,307	134,754
Tennessee	284	3,813	4,037	4,077	3,066	2,995	2,655
West South Central	**8,689,062**	**7,413,344**	**8,188,459**	**6,629,637**	**5,769,879**	**4,899,859**	**4,370,327**
Arkansas	87,761	79,162	83,534	114,516	138,903	166,885	169,578
Louisiana	4,759,426	4,031,576	4,562,678	3,593,587	3,053,072	2,505,273	2,226,857
Oklahoma	1,118,021	888,113	986,368	824,866	691,530	579,382	511,997
Texas	2,723,854	2,414,493	2,555,879	2,096,668	1,886,374	1,648,319	1,461,895
Mountain	**1,407,972**	**1,272,693**	**1,302,648**	**1,268,756**	**924,358**	**893,105**	**639,462**
Arizona	0	0	0	0	0	73	9
Colorado	160,839	122,040	116,262	95,180	80,946	69,974	68,045
Idaho	78	0	0	0	0	0	0
Montana	31,842	31,658	24,351	18,021	20,151	15,031	20,980
Nevada	0	0	0	0	0	0	0
New Mexico	806,724	713,159	736,216	739,709	483,939	528,437	314,040
Utah	70,855	53,165	52,753	52,925	37,234	29,839	27,088
Wyoming	337,634	352,671	373,066	362,921	302,088	249,751	209,300
Pacific[b]	**0**	**0**	**0**	**0**	**0**	**20,731**	**27,689**
Undesignated	**0**	**0**	**0**	**0**	**0**	**0**	**38**

a. Massachusetts

b. California

Source: U.S. Department of Energy, Energy Information Administration, *Gas Supplies of Interstate Natural Gas Pipeline Companies,* 1988.

TABLE 3-11
INTERSTATE MOVEMENTS AND MOVEMENTS ACROSS U.S. BORDERS OF NATURAL AND SUPPLEMENTAL GAS, 1988[a]

(Millions of Cubic Feet)

Division and State	Interstate Movements: Receipts	Interstate Movements: Deliveries	Interstate Movements: Net	Movements Across U.S. Borders: Receipts[b]	Movements Across U.S. Borders: Deliveries[c]	Movements Across U.S. Borders: Net
United States	**48,289,339**	**48,289,339**	**0**	**1,646,577**	**426,989**	**1,219,590**
New England	**603,136**	**248,946**	**354,191**	**25,595**	**0**	**25,595**
Connecticut	211,099	119,268	91,830	0	0	0
Maine	3,324	0	3,324	0	0	0
Massachusetts	243,528	27,697	215,832	17,490	0	17,490
New Hampshire	16,711	3,167	13,545	0	0	0
Rhode Island	128,474	96,574	31,900	0	0	0
Vermont	0	2,240	(2,240)	8,105	0	8,105
Middle Atlantic	**4,186,784**	**2,524,256**	**1,662,528**	**70,993**	**1,800**	**69,193**
New Jersey	1,009,154	607,748	401,406	0	0	0
New York	1,075,859	362,242	713,617	70,993	1,800	69,193
Pennsylvania	2,101,771	1,554,266	547,505	0	0	0
East North Central	**6,813,695**	**3,756,979**	**3,056,716**	**997**	**349,054**	**(348,057)**
Illinois	1,637,380	747,413	889,967	0	0	0
Indiana	1,404,557	1,066,977	337,580	0	0	0
Michigan	975,993	1,300	974,693	997	349,054	(348,057)
Ohio	2,040,012	1,459,639	580,373	0	0	0
Wisconsin	755,753	481,650	274,103	0	0	0
West North Central	**5,549,583**	**5,378,535**	**171,048**	**586,097**	**7,116**	**578,982**
Iowa	1,238,879	999,000	239,879	0	0	0
Kansas	1,029,701	1,129,686	(99,985)	0	0	0
Minnesota	578,243	876,813	(298,570)	586,097	7,116	578,982
Missouri	900,081	655,619	244,462	0	0	0
Nebraska	1,091,860	962,058	129,802	0	0	0
North Dakota	324,701	391,683	(66,982)	0	0	0
South Dakota	386,118	363,676	22,442	0	0	0
South Atlantic	**6,714,235**	**5,607,422**	**1,106,813**	**0**	**0**	**0**
Delaware	24,698	2,762	21,936	0	0	0
District of Columbia	33,587	0	33,587	0	0	0
Florida	290,973	33	290,940	0	0	0
Georgia	1,303,774	985,384	318,390	0	0	0
Maryland	857,050	682,447	174,603	0	0	0
North Carolina	863,186	707,786	155,399	0	0	0
South Carolina	975,127	863,186	111,942	0	0	0
Virginia	994,838	848,322	146,516	0	0	0
West Virginia	1,371,002	1,517,502	(146,500)	0	0	0
East South Central	**14,119,346**	**13,414,033**	**705,312**	**0**	**0**	**0**
Alabama	2,633,500	2,476,584	156,915	0	0	0
Kentucky	3,055,726	2,853,063	202,663	0	0	0
Mississippi	5,147,232	5,023,162	124,070	0	0	0
Tenneessee	3,282,888	3,061,224	221,664	0	0	0
West South Central	**4,779,553**	**12,042,598**	**(7,263,044)**	**0**	**422**	**(422)**
Arkansas	2,250,040	2,198,705	51,335	0	0	0
Louisiana	1,525,303	5,292,062	(3,766,758)	0	0	0
Oklahoma	422,822	1,602,593	(1,179,771)	0	0	0
Texas	581,388	2,949,238	(2,367,850)	0	422	(422)
Mountain	**3,038,876**	**4,424,828**	**(1,385,952)**	**822,069**	**17,024**	**805,046**
Arizona	1,287,035	1,141,767	145,268	0	1,905	(1,905)
Colorado	466,630	408,688	57,942	0	0	0
Idaho	60,696	522,973	(462,277)	503,451	0	503,451
Montana	31,092	344,845	(313,753)	318,618	15,119	303,500
Nevada	45,301	2,422	42,879	0	0	0
New Mexico	879,379	1,368,584	(489,206)	0	0	0
Utah	158,711	91,943	66,769	0	0	0
Wyoming	110,032	543,606	(433,574)	0	0	0
Pacific	**2,484,131**	**891,742**	**1,592,388**	**140,826**	**51,573**	**89,253**
Alaska	0	0	0	0	51,573	(51,573)
California	1,495,049	0	1,495,049	0	0	0
Hawaii	0	0	0	0	0	0
Oregon	489,376	402,366	87,010	0	0	0
Washington	499,706	489,376	10,329	140,826	0	140,826

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a. Supplemental Gas Supplies totaled 101,133 million cubic feet. See Table 3-16.

b. For detail by country see Table 3-13.

c. For detail by country see Table 3-12.

Source: U.S. Department of Energy, Energy Information Administration, *Natural Gas Annual*, 1988.

TABLE 3-3
SUPPLY AND DISPOSITION OF GAS IN THE UNITED STATES, 1967–1988

(Millions of Cubic Feet)

	Gross Production[a]						Disposition of Marketed Production									
Year	Gas Wells	Oil Wells	Total	Repressuring	Vented and Flared	Marketed Production[b]	Extraction Loss	Lease and Plant Fuel	Net Change in Storage	Pipeline Fuel	Unaccounted For	Nonhydrocarbon Gases	Domestic Dry Production For Sale	Net Imports	Supplemental Supplies	Delivered to Consumers[c]
1967	15,346,853	4,904,923	20,251,776	1,590,574	489,877	18,171,325	784,534	1,140,966	184,829	575,752	296,214	d	15,189,030	482,612	d	15,671,642
1968	16,539,925	4,785,075	21,325,000	1,486,092	516,508	19,322,400	827,877	1,237,131	95,539	590,965	325,062	d	16,245,826	558,140	d	16,803,966
1969	17,489,415	5,189,780	22,679,195	1,455,205	525,750	20,698,240	866,560	1,345,648	119,500	630,962	331,587	d	17,403,983	675,647	d	18,079,630
1970	18,594.658	5,191,795	23,786,453	1,376,351	489,460	21,920,642	906,413	1,398,758	398,160	722,166	227,650	d	18,267,495	750,967	d	19,018,462
1971	18,925,136	5,162,895	24,088,031	1,310,458	284,561	22,493,012	883,127	1,413,650	331,768	742,592	338,999	d	18,782,87[illegible]	854,336	d	19,637,212
1972	19,042,592	4,973,517	24,016,109	1,236,292	248,119	22,531,698	907,993	1,455,563	135,734	766,156	328,002	d	18,938,2[illegible]	941,483	d	19,879,733
1973	19,371,600	4,695,602	24,067,202	1,171,361	248,292	22,647,549	916,551	1,495,915	441,504	728,177	195,863	d	18,869,539	955,732	d	19,825,271
1974	18,669,212	4,180,581	22,849,793	1,079,890	169,381	21,600,522	887,490	1,477,386	83,663	668,792	288,731	d	18,194,460	882,495	d	19,076,955
1975	17,380,293	3,723,237	21,103,530	860,956	133,913	20,108,661	872,282	1,396,277	344,054	582,963	235,068	d	16,678,020	880,333	d	17,558,353
1976	17,190,655	3,753,123	20,943,778	859,410	131,930	19,952,438	854,086	1,634,355	(165,327)	548,323	216,240	d	16,864,760	899,058	d	17,763,818
1977	17,415,983	3,681,088	21,097,071	934,801	136,807	20,025,463	862,563	1,659,145	556,631	532,669	41,063	d	16,373,392	955,375	d	17,328,767
1978	17,394,213	3,914,602	21,308,815	1,181,432	153,350	19,974,033	852,130	1,647,911	120,237	530,451	287,201	d	16,536,103	913,013	d	17,449,116
1979	18,033,879	3,849,474	21,883,353	1,245,074	167,019	20,471,260	807,845	1,498,530	248,034	600,964	372,330	d	16,943,557	1,197,710	d	18,141,267
1980	17,572,526	4,297,166	21,869,692	1,365,454	125,451	20,378,787	776,605	1,026,438	(23,269)	634,622	639,559	199,063	17,125,769	935,874	154,590	18,216,233
1981	17,336,862	4,250,591	21,587,453	1,311,735	98,017	20,177,701	774,562	927,591	297,430	642,325	500,501	221,878	16,813,414	844,826	175,702	17,833,942
1982	15,802,614	4,407,314	20,209,928	1,388,392	93,365	18,728,171	761,942	1,109,398	308,199	596,411	474,736	208,492	15,268,993	881,441	144,811	16,295,245
1983	14,146,668	4,450,426	18,597,095	1,458,054	94,962	17,044,081	789,632	978,249	(447,299)	490,042	642,061	221,937	14,369,459	865,268	131,894	15,366,621
1984	15,505,073	4,686,746	20,191,820	1,630,152	107,913	18,453,755	837,867	1,076,881	196,835	528,754	142,600	224,118	15,446,700	788,216	109,977	16,344,893
1985	14,528,147	5,006,326	19,534,475	1,915,197	94,778	17,524,500	816,370	966,047	(234,756)	503,766	354,065	326,497	14,792,511	892,256	126,363	15,811,130
1986	14,147,014	4,915,932	19,062,947	1,837,552	97,633	17,127,762	799,645	922,524	146,910	485,041	426,726	336,851	14,010,064	690,478	113,189[e]	14,813,731
1987	14,798,526	5,257,308	20,055,835	2,207,559	123,707	17,724,569	812,320	1,149,383	6,159	519,170	432,893	376,033	14,428,611	938,084	101,382	15,468,385
1988	15,448,451	5,431,703	20,880,157	2,469,434	142,525	18,268,198	815,844	1,094,676	(69,293)	613,912	344,356	459,883	15,009,820	1,220,174	101,134	16,318,984

a. Includes gas (mostly residue gas) blown to the air but does not include direct waste on producing properties, except where data is available.
b. "Marketed Production" equals "Total Gross Production" less "Repressuring" and "Vented and Flared." It includes an allowance for natural gas liquids content in the natural gas and nonhydrocarbon gases.
c. Defined as Domestic Dry Production For Sale plus Net Imports plus Supplemental Gas Supplies. See Table 3-16 for details on Supplemental Gas Supplies.
d. 1980 is the first year this data is available.
e. For detail see Table 3-16.
( ): Denotes negative.

Note: 1989 data reported by U.S. Department of Energy, *Monthly Energy Review*, February 1990 is as follows: "Marketed Production (wet)—17,943,000 million of cubic feet (MMcf); "Net Imports"—1,308,000 MMcf; "Net Change in Underground Storage"—(353,000) MMcf.

Source: U.S. Department of Energy, Energy Information Administration, *Natural Gas Annual*, 1988.

TABLE 3-10
TOTAL OFFSHORE PRODUCTION OF NATURAL GAS AND PERCENT STATE/FEDERALLY CONTROLLED, BY STATE, 1967–1989

	Alaska			California			Louisiana			Texas			Total		
		Percent			Percent			Percent			Percent			Percent	
Year	MMcf	State	OCS	MMcf	State	OCS	MMcf	State	OCS	MMcf	State	OCS	MMcf	State	OCS
1967	9,046	100	—	46,732	100	—	1,482,622	27	73	160,798	22	78	1,699,198	30	70
1968	25,807	100	—	86,565	99	1	1,906,483	26	74	300,689	29	71	2,319,543	34	66
1969	43,243	100	—	83,904	94	6	2,380,225	23	77	238,056	47	53	2,745,429	29	71
1970	83,140	100	—	71,121	83	17	2,868,466	21	79	264,661	50	50	3,287,388	26	74
1971	86,326	100	—	61,448	74	26	3,207,475	18	82	235,600	67	33	3,590,850	23	77
1972	76,819	100	—	44,781	78	22	3,485,003	17	83	277,282	47	53	3,883,885	22	78
1973	74,655	100	—	37,883	81	19	3,612,878	15	85	251,038	41	59	3,976,454	19	81
1974	74,672	100	—	34,505	84	16	3,867,751	13	87	269,577	41	59	4,246,505	17	83
1975	76,295	100	—	27,272	85	15	3,840,631	13	87	220,530	44	56	4,164,727	17	83
1976	74,143	100	—	22,459	84	16	4,012,801	13	87	205,993	55	45	4,315,396	17	83
1977	77,540	100	—	17,527	81	19	4,133,610	12	88	268,250	68	32	4,496,927	17	83
1978	74,910	100	—	17,668	80	20	4,639,460	11	89	402,000	42	58	5,134,039	15	85
1979	73,792	100	—	16,417	82	18	4,635,487	10	90	719,208	29	71	5,444,904	14	86
1980	64,543	100	—	16,182	81	19	4,422,492	9	91	879,020	29	71	5,382,236	14	86
1981	72,307	100	—	26,237	51	49	4,480,934	8	92	966,983	24	76	5,546,462	12	88
1982	68,372	100	—	31,758	44	56	4,163,089	9	91	1,104,987	22	78	5,368,207	13	87
1983	68,837	100	—	29,878	46	54	3,490,146	9	91	998,951	15	85	4,587,812	12	88
1984	68,688	100	—	41,643	33	67	3,892,103	8	92	1,043,384	11	89	5,045,819	10	90
1985	62,796	100	—	68,647	28	72	3,346,856	7	93	943,057	11	89	4,421,357	9	91
1986	63,351	100	—	60,942	30	70	3,155,961	7	93	1,093,497	10	90	4,373,751	10	90
1987	61,233	100	—	53,991	24	76	3,401,277	7	93	1,303,074	8	92	4,819,576	8	92
1988	66,971	100	—	45,286	24	76	3,307,312	6	94	1,276,500	8	92	4,696,069	8	92
1989	82,116	100	—	37,603	24	76	3,206,577	6	94	1,276,619	9	91	4,602,915	9	91

Source: U.S. Department of the Interior, Minerals Management Service, *Federal Offshore Statistics.*
Note: Totals may not add due to independent rounding.

TABLE 3-12
EXPORTS OF NATURAL GAS FROM THE UNITED STATES, 1967–1989

(Millions of Cubic Feet)

Year	Total	Canada	Mexico	Japan[a]
1967	81,614	70,456	11,158	0
1968	93,745	81,647	12,098	0
1969	51,304	34,931	13,391	2,982
1970	69,831	10,878	14,678	44,257
1971	80,212	14,349	15,632	50,231
1972	78,014	15,553	14,579	47,882
1973	77,169	14,824	13,999	48,346
1974	76,789	13,263	13,268	50,258
1975	72,675	10,219	9,454	53,002
1976	64,710	7,506	7,425	49,779
1977	55,626	31	3,940	51,655
1978	52,533	66	4,033	48,434
1979	55,673	76	4,308	51,289
1980	48,731	113	3,886	44,732
1981	59,372	106	3,337	55,929
1982	51,728	162	1,705	49,861
1983	54,639	136	1,646	52,857
1984	54,753	127	1,786	52,840
1985	55,268	178	2,207	52,883
1986	61,271	9,203	1,896	50,172
1987	54,020	3,297	2,125	48,599
1988	73,638	19,738	2,327	51,573
1989	106,871	38,443	17,004	51,424

a. LNG exports from Alaska.
Source: U.S. Department of Energy, Energy Information Administration, *Natural Gas Monthly.*

TABLE 3-13
IMPORTS OF NATURAL GAS TO THE UNITED STATES, 1967–1989

(Millions of Cubic Feet)

Year	Total	Canada	Mexico	Algeria[a]
1967	564,226	513,255	50,971	0
1968	651,885	604,462	47,423	0
1969	726,951	680,106	46,845	0
1970	820,780	778,687	41,336	757
1971	934,548	912,426	20,689	1,433
1972	1,019,496	1,009,323	8,140	2,032
1973	1,032,901	1,027,883	1,632	3,388
1974	959,284	959,063	222	0
1975	953,008	948,115	0	4,893
1976	963,768	953,613	0	10,155
1977	1,011,002	997,295	2,384	11,324
1978	965,545	881,123	0	84,422
1979	1,253,383	1,000,775	0	252,608
1980	984,767	796,507	102,410	85,850
1981	903,949	762,113	105,013	36,824
1982	933,336	783,407	94,794	55,136
1983	918,407	711,923	75,361	131,124
1984	843,060	755,368	51,502	36,191
1985	949,715	926,056	0	23,659
1986	750,449	748,780	0	1,669
1987	992,532	992,532	0	0
1988	1,293,812	1,276,322	0	17,490
1989	1,381,520	1,339,357	0	42,163

a. Quantities represent total LNG imports from overseas into the U.S.
Source: U.S. Department of Energy, Energy Information Administration, *Natural Gas Monthly.*

TABLE 3-14
NATURAL GAS DELIVERED TO CONSUMERS BY STATE, 1975-1988[a]

(Millions of Cubic Feet)

Division and State	1975	1980	1984	1985	1986	1987	1988[b]
United States	**17,558,353**	**18,216,233**	**16,344,893**	**15,811,130**	**14,813,731**	**15,468,385**	**16,318,984**
New England	**254,070**	**297,506**	**337,857**	**343,158**	**307,009**	**372,194**	**348,987**
Connecticut	63,968	72,512	80,924	77,864	78,264	90,867	87,592
Maine	13,534[c]	2,166	2,444	2,520	2,465	2,629	3,191
Massachusetts	153,461	181,912	207,564	217,503	184,727	225,701	208,998
New Hampshire	d	9,448	10,506	10,545	10,269	11,951	12,987
Rhode Island	23,107	27,477	31,557	29,733	26,270	35,865	30,668
Vermont	d	3,991	4,862	4,993	5,014	5,181	5,551
Middle Atlantic	**1,451,698**	**1,818,067**	**1,837,082**	**1,723,100**	**1,647,322**	**1,751,952**	**1,822,776**
New Jersey	243,714	339,358	415,852	376,982	350,632	418,018	411,415
New York	573,699	733,800	784,243	758,031	724,481	749,004	784,673
Pennsylvania	634,285	744,909	636,987	588,087	572,209	584,930	626,688
East North Central	**3,718,831**	**3,628,619**	**3,231,263**	**3,090,195**	**2,928,230**	**2,880,161**	**3,225,901**
Illinois	1,080,787	1,074,771	1,017,180	946,614	911,974	863,261	952,529
Indiana	467,736	480,346	446,210	428,124	389,312	406,661	447,542
Michigan	865,539	846,278	698,672	690,493	648,981	635,568	722,562
Ohio	944,925	883,613	767,095	719,393	702,851	697,895	790,436
Wisconsin	359,844	343,611	302,106	305,571	275,112	276,776	312,832
West North Central	**1,686,051**	**1,455,928**	**1,199,852**	**1,165,391**	**1,061,556**	**1,036,196**	**1,177,538**
Iowa	329,703	256,900	224,314	215,553	199,640	192,728	228,308
Kansas	402,273	411,494	287,328	274,900	241,346	250,528	264,539
Minnesota	327,315	276,717	249,040	251,243	237,361	225,292	272,585
Missouri	362,130	312,872	259,904	255,636	238,144	229,960	248,022
Nebraska	207,371	152,283	129,745	120,496	100,762	98,179	117,234
North Dakota	24,757	21,660	25,109	22,682	21,189	18,672	22,876
South Dakota	32,502	24,002	24,412	24,881	23,114	20,837	23,974
South Atlantic	**1,268,171**	**1,390,415**	**1,303,188**	**1,221,828**	**1,217,169**	**1,295,220**	**1,342,920**
Delaware	18,603	29,797	42,957	38,488	33,005	36,699	29,253
District of Columbia	e	27,868	29,054	28,526	29,229	30,728	32,483
Florida	271,471	304,638	291,128	278,666	278,439	288,317	282,792
Georgia	322,383	307,827	301,331	276,446	273,799	297,249	316,108
Maryland	163,462[f]	156,300	156,868	148,589	150,477	166,428	170,326
North Carolina	111,276	147,448	138,228	129,081	130,787	143,500	146,790
South Carolina	120,308	139,214	105,842	95,225	96,175	103,273	109,817
Virginia	118,083	149,980	136,757	134,589	135,725	135,079	154,756
West Virginia	142,585	127,343	101,023	92,218	89,533	93,947	100,595
East South Central	**809,664**	**856,158**	**798,830**	**727,003**	**682,301**	**689,645**	**746,199**
Alabama	245,287	242,793	213,516	202,901	187,654	189,112	217,586
Kentucky	182,781	180,368	162,985	149,102	140,704	147,258	160,332
Mississippi	183,807	219,828	228,840	195,058	179,610	168,075	171,186
Tennessee	197,789	213,169	193,489	179,942	174,333	185,200	197,095
West South Central	**5,332,025**	**5,873,159**	**4,967,311**	**4,720,819**	**4,583,676**	**4,635,510**	**4,877,806**
Arkansas	241,803	260,319	193,694	174,991	184,148	151,856	197,208
Louisiana	1,425,686	1,523,691	1,241,850	1,086,006	1,149,230	1,147,961	1,116,676
Oklahoma	565,387	639,642	533,712	473,906	448,808	467,942	460,130
Texas	3,099,149	3,449,507	2,998,055	2,985,916	2,801,490	2,867,751	3,103,792
Mountain	**982,840**	**842,444**	**693,082**	**657,276**	**576,447**	**585,189**	**657,928**
Arizona	139,130	144,511	107,434	112,228	88,587	92,305	106,017
Colorado	294,760	241,765	211,752	200,976	181,770	189,263	208,087
Idaho	56,182	44,835	34,977	36,243	32,110	33,583	36,646
Montana	75,441	54,460	42,914	42,879	37,272	34,687	37,587
Nevada	61,251	58,284	42,173	39,087	33,746	41,161	48,031
New Mexico	172,638	146,579	101,869	78,453	72,830	79,406	94,853
Utah	116,620	106,647	106,188	104,915	90,784	80,494	90,702
Wyoming	66,818	45,363	45,775	42,495	39,348	34,290	36,005
Pacific	**2,055,003**	**2,053,937**	**1,976,425**	**2,162,360**	**1,810,021**	**2,222,314**	**2,118,932**
Alaska	66,815	122,966	140,535	143,470	127,812	130,478	132,017
California	1,727,729	1,729,650	1,633,122	1,806,398	1,496,008	1,889,118	1,762,480
Hawaii	0	3,131	2,375	2,483	2,463	2,610	2,614
Oregon	101,980	73,083	75,958	78,297	67,349	72,143	78,996
Washington	158,479	125,107	124,435	131,712	116,389	127,965	142,825

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a. Includes deliveries made directly to end users in addition to gas utility sales as shown in Table 6-7.
b. Includes 101,133 million cubic feet (MMcf) of Supplemental Gas Supplies, less 459,883 MMcf of Nonhydrocarbon Gases.
c. Includes New Hampshire and Vermont.
d. Included in Maine.
e. Included in Maryland.
f. Includes District of Columbia.

Source: U.S. Department of Energy, Energy Information Administration, *Natural Gas Annual*, 1988.

TABLE 3-15
TRANSPORTATION VOLUMES DELIVERED TO END USERS, 1985-1988[a]

(MMCF)

	1985		1986		1987		1988	
Division and State	Industrial	Electric Generation	Industrial	Electric Generation	Industrial	Electric Generation	Industrial	Electric Generation
United States	**1,839,611**	**715,121**	**2,240,381**	**720,902**	**3,070,103**	**917,322**	**3,663,187**	**1,076,253**
New England	**0**	**0**	**28**	**11**	**3,010**	**1,676**	**1,367**	**2**
Connecticut	0	0	12	11	137	1,580	453	0
Maine	0	0	0	0	0	0	0	0
Massachusetts	0	0	16	0	2.307	96	254	2
New Hampshire	0	0	0	0	0	0	0	0
Rhode Island	0	0	0	0	566	0	660	0
Vermont	0	0	0	0	0	0	0	0
Middle Atlantic	**90,997**	**13,005**	**110,331**	**31,173**	**171,524**	**32,311**	**208,786**	**11,761**
New Jersey	12,333	4,287	8,688	5,952	22,806	925	27,017	315
New York	8,794	8,718	19,697	25,077	38,648	30,926	47,259	10,511
Pennsylvania	69,870	0	81,946	144	110,070	460	134,510	935
East North Central	**237,072**	**0**	**375,039**	**2,790**	**623,072**	**3,783**	**802,803**	**7,216**
Illinois	57,025	0	67,033	0	161,419	105	175,591	2.461
Indiana	33,802	0	61,473	0	136,458	0	167,798	1,979
Michigan	22,816	0	79,970	2,790	82,988	3,289	153,051	1,934
Ohio	119,347	0	147,617	0	173,127	252	227,745	0
Wisconsin	4,082	0	18,946	0	69,080	137	78,618	842
West North Central	**2,668**	**306**	**9,768**	**544**	**115,776**	**4,029**	**198,779**	**9,131**
Iowa	169	0	3,597	0	33,141	0	60,931	1,784
Kansas	1,385	306	3,049	518	51,647	2,934	68,052	4,003
Minnesota	0	0	1,192	7	10,142	0	34,281	1,463
Missouri	805	0	958	19	11,853	1,095	16,101	1,879
Nebraska	257	0	435	0	7,875	0	15,783	2
North Dakota	52	0	373	0	323	0	2,206	0
South Dakota	0	0	164	0	795	0	1,425	0
South Atlantic	**91,304**	**49,699**	**112,411**	**37,921**	**168,828**	**29,525**	**228,037**	**17,962**
Delaware	5,921	0	5,068	0	2,954	0	3,089	409
District of Columbia	0	0	0	0	0	0	0	0
Florida	4,575	49,110	3,211	37,805	5,241	27,111	18,054	16,059
Georgia	11,080	0	31,472	0	56,045	0	80,806	0
Maryland	30,165	0	31,008	0	39,362	0	39,873	0
North Carolina	8,861	589	2,890	116	12,292	185	13,263	840
South Carolina	1,106	0	422	0	7,308	0	13,667	0
Virginia	12,446	0	14,137	0	11,735	2,229	25,852	654
West Virginia	17,650	0	24,203	0	33,891	0	33,433	0
East South Central	**86,838**	**13,296**	**119,527**	**12,116**	**145,515**	**14,652**	**181,791**	**26,896**
Alabama	26,554	853	27,643	775	51,415	1,079	70,229	886
Kentucky	5,137	0	20,113	0	32,085	0	37,451	0
Mississippi	35,935	12,443	40,908	11,341	32,042	13,573	40,868	26,010
Tennessee	19,212	0	30,863	0	29,973	0	33,243	0
West South Central	**1,264,426**	**615,127**	**1,390,469**	**618,511**	**1,489,407**	**702,703**	**1,685,691**	**895,316**
Arkansas	29,546	0	48,694	0	29,024	0	79,343	0
Louisiana	368,603	108,660	323,895	176,140	316,840	192,026	331,658	181,223
Oklahoma	26,846	179,901	93,807	180,481	141,058	169,756	97,836	163,015
Texas	839,431	326,566	924,073	261,890	1,002,485	340,921	1,176,854	551,078
Mountain	**17,574**	**8,551**	**24,043**	**188**	**60,562**	**33,130**	**106,244**	**45,697**
Arizona	1,428	0	0	0	2,429	21,619	17,155	20,431
Colorado	4,717	0	10,921	188	13,390	5,919	23,309	4,603
Idaho	4,743	0	2,032	0	12,746	0	19,961	0
Montana	761	0	1,254	0	1,952	0	1,101	0
Nevada	0	0	0	0	4,098	5,108	4,964	6,903
New Mexico	64	8,551	0	0	8,448	484	11,611	13,760
Utah	0	0	0	0	6,099	0	16,092	0
Wyoming	5,861	0	9,836	0	11,400	0	12,051	0
Pacific	**48,231**	**15,137**	**98,764**	**17,647**	**292,408**	**95,512**	**249,691**	**62,273**
Alaska	20,493	15,015	19,257	11,742	18,100	6,297	30,824	5,908
California	23,762	122	68,982	5,905	263,991	89,215	171,228	55,488
Hawaii	0	0	0	0	0	0	0	0
Oregon	3,264	0	5,255	0	4,483	0	26,019	0
Washington	712	0	5,270	0	5,834	0	21,620	877

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[a] Is part of the total deliveries to end users as shown in Table 3-14.

Source: U.S. Department of Energy, Energy Information Administration, *Natural Gas Annual*, 1988.

TABLE 3-16
SUPPLEMENTAL GAS SUPPLIES BY STATE, 1988

(Millions of Cubic Feet)

Division and State	Total	Synthetic Natural Gas	Propane-Air	Refinery Gas	Other[a]
United States	**101,133**	**62,021**	**5,241**	**14,999**	**18,873**
New England	**2,004**	**0**	**2,004**	**0**	**0**
Connecticut	245	0	245	0	0
Maine	0	0	0	0	0
Massachusetts	876	0	876	0	0
New Hampshire	492	0	492	0	0
Rhode Island	391	0	391	0	0
Vermont	0	0	0	0	0
Middle Atlantic	**15,828**	**417**	**360**	**14,217**	**834**
New Jersey	14,846	417	8	14,217	204[b]
New York	728	0	98	0	630[c]
Pennsylvania	254	0	254	0	0
East North Central	**16,494**	**9,733**	**500**	**782**	**5,480**
Illinois	9,803	9,733	70	0	0
Indiana	4,243	0	384	782	3,078[d]
Michigan	2,402	0	f	0	2,402[e]
Ohio	44	0	44	0	0
Wisconsin	2	0	2	0	0
West North Central	**51,393**	**49,002**	**439**	**0**	**1,951**
Iowa	34	0	5	0	29[c]
Kansas	0	0	0	0	0
Minnesota	385	0	385	0	0
Missouri	2	0	2	0	0
Nebraska	1,948	0	25	0	1,922[e]
North Dakota	49,014	49,002	12	0	0
South Dakota	10	0	10	0	0
South Atlantic	**1,820**	**68**	**1,552**	**0**	**200**
Delaware	2	0	2	0	0
District of Columbia	0	0	0	0	0
Florida	0	0	0	0	0
Georgia	241	0	41	0	200[c]
Maryland	743	68	675	0	0
North Carolina	0	0	0	0	0
South Carolina	191	0	191	0	0
Virginia	643	0	643	0	0
West Virginia	0	0	0	0	0
East South Central	**59**	**0**	**59**	**0**	**0**
Alabama	17	0	17	0	0
Kentucky	6	0	6	0	0
Mississippi	0	0	0	0	0
Tennessee	36	0	36	0	0
West South Central	**4**	**0**	**4**	**0**	**0**
Arkansas	0	0	0	0	0
Louisiana	0	0	0	0	0
Oklahoma	0	0	0	0	0
Texas	4	0	4	0	0
Mountain	**10,645**	**0**	**302**	**0**	**10,343**
Arizona	0	0	0	0	0
Colorado	10,322	0	270	0	10,052[e]
Idaho	0	0	0	0	0
Montana	0	0	0	0	0
Nevada	32	0	32	0	0
New Mexico	0	0	0	0	0
Utah	0	0	0	0	0
Wyoming	291	0	0	0	291[e]
Pacific	**2,886**	**2,801**	**19**	**0**	**66**
Alaska	0	0	0	0	0
California	0	0	0	0	0
Hawaii	2,801	2,801	0	0	0
Oregon	6	0	6	0	0
Washington	79	0	13	0	66[e]

a. Includes coke oven gas, manufactured gas, biomass gas, and air injection for Btu stabilization.
b. Manufactured gas.
c. Biomass gas.
d. Coke oven gas.
e. Air injection for Btu stabilization.
f. Less than 500,000 cubic feet.

Source: U.S. Department of Energy, Energy Information Administration, *Natural Gas Annual*, 1988.

TABLE 3-18
NUMBER OF PRODUCING GAS WELLS, BY STATE, 1975-1989[a]

Division and State	1975	1980	1985	1986	1987	1988R	1989P
United States	**132,095**	**182,004**	**243,344**	**241,527**	**249,225**	**257,279**	**261,139**
New England	**0**	**0**		**0**	**0**	**0**	**0**
Middle Atlantic	**18,200**	**21,976**	**31,000**	**32,547**	**32,967**	**33,090**	**34,184**
New Jersey	0	0	0	0	0	0	0
New York	900	2,076	4,500	4,947	5,167	5,090	5,184
Pennsylvania	17,300	19,900	26,500	27,600	27,800	28,000	29,000
East North Central	**11,110**	**18,442**	**33,393**	**34,8[illegible]3**	**35,805**	**36,369**	**37,088**
Illinois	41	70	123	152	169	293	296
Indiana	478	698	1,272	[illegible]9	1,298	1,295	1,295
Michigan	209	423	655	[illegible]51	722	988	1,265
Ohio	10,382	17,251	31,343	32,721	33,616	33,793	34,232
Wisconsin	0	0	0	0	0	0	0
West North Central	**8,925**	**12,935**	**16,109**	**11,615**	**13,767**	**15,434**	**14,092**
Iowa	0	0	0	0	0	0	0
Kansas	8,865	12,820	15,980	11,485	13,631	15,300	13,935
Minnesota	0	0	0	0	0	0	0
Missouri	3	0	4	9	3	4	0
Nebraska	19	22	19	16	20	18	0
North Dakota	18	80	62	61	61	61	103
South Dakota	20	13	44	44	52	51	54
South Atlantic	**21,901**	**26,167**	**32,977**	**33,979**	**34,997**	**36,536**	**36,979**
Delaware	0	0	0	0	0	0	0
District of Columbia	0	0	0	0	0	0	0
Florida	0	0	0	0	0	0	0
Georgia	0	0	0	0	0	0	0
Maryland	15	9	7	6	8	8	0
North Carolina	0	0	0	0	0	0	0
South Carolina	0	0	0	0	0	0	0
Virginia	186	258	495	573	689	728	739
West Virginia	21,700	25,900	32,475	33,400	34,300	35,800	36,240
East South Central	**7,684**	**8,922**	**11,846**	**12,111**	**13,116**	**13,477**	**14,167**
Alabama	45	314	863	1,029	1,135	1,264	1,580
Kentucky	7,386	7,984	9,285	9,747	10,366	10,777	11,250
Mississippi	248	447	710	414	775	634	739
Tennessee	5	177	988	921	840	802	598
West South Central	**48,440**	**71,447**	**88,415**	**86,507**	**88,707**	**94,962**	**90,938**
Arkansas	1,128	1,114	2,623	2,719	2,847	2,996	2,830
Louisiana	11,359	16,190	16,716	15,313	15,890	14,071	13,873
Oklahoma	9,769	16,419	24,756	25,762	26,595	27,307	27,443
Texas	26,184	37,724	44,320	42,713	43,375	50,588	46,792
Mountain	**14,189**	**20,914**	**27,945**	**28,540**	**28,477**	**25,837**	**29,253**
Arizona	1	1	1	1	0	0	0
Colorado	1,380	2,997	4,401	4,398	4,530	4,426	4,481
Idaho	0	0	0	0	0	0	0
Montana	1,235	1,881	2,260	2,799	2,349	2,553	2,575
Nevada	0	0	0	0	0	0	0
New Mexico	10,352	14,571	18,308	18,647	18,806	15,909	19,191
Utah	271	200	755	594	645	665	834
Wyoming	950	1,264	2,220	2,101	2,147	2,284	2,172
Pacific	**1,646**	**1,201**	**1,659**	**1,415**	**1,389**	**1,574**	**1,269**
Alaska	61	71	84	85	85	91	88
California	1,585	1,125	1,566	1,316	1,294	1,469	1,181
Hawaii	0	0	0	0	0	0	0
Oregon	0	5	9	14	10	14	0
Washington	0	0	0	0	0	0	0
Other States	**0**	**0**	**0**	**0**	**0**	**0**	**45**
Federal Waters	**b**	**b**	**b**	**b**	**b**	**b**	**3,124**

a. Data pertain only to dry gas and condensate wells. Data as of December 31.

b. "Federal Waters" is included in Texas, Louisiana, and California totals.

R–Revised. P–Preliminary.

Source: Preliminary numbers taken from *World Oil*, February, 1990. Revised numbers taken from U.S. Department of Energy, Energy Information Administration, *Natural Gas Annual*, 1988.

TABLE 3-19
NEW GAS WELL COMPLETIONS, BY STATE, 1975-1989[a]

Division and State	1975	1980	1985	1986	1987[R]	1988[R]	1989[P]
United States	**8,169**	**17,132**	**12,875[b]**	**7,862**	**7,697**	**7,949**	**6,156**
New England	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Middle Atlantic	**964**	**1,634**	**1,777**	**1,169**	**1,145**	**910**	**520**
New Jersey	0	0	0	0	0	0	0
New York	362	368	312	208	221	146	45
Pennsylvania	602	1,266	1,465	961	924	764	475
East North Central	**835**	**2,795**	**1,208**	**619**	**648**	**767**	**713**
Illinois	5	14	38	25	19	45	31
Indiana	17	46	24	25	15	26	9
Michigan	34	52	42	67	124	313	481
Ohio	779	2,683	1,104	502	490	383	192
Wisconsin	0	0	0	0	0	0	0
West North Central	**501**	**681**	**512**	**390**	**419**	**640**	**371**
Iowa	0	0	0	0	0	0	0
Kansas	499	642	502	387	410	635	368
Minnesota	0	0	0	0	0	0	0
Missouri	1	2	2	0	0	0	0
Nebraska	1	3	1	1	1	0	0
North Dakota	0	14	4	2	2	1	3
South Dakota	0	20	3	0	6	4	0
South Atlantic	**595**	**1,545**	**1,250**	**895**	**770**	**617**	**590**
Delaware	0	0	0	0	0	0	0
District of Columbia	0	0	0	0	0	0	0
Florida	0	1	1	0	0	0	0
Georgia	0	0	0	0	0	0	0
Maryland	0	0	0	0	0	0	0
North Carolina	0	0	0	0	0	0	0
South Carolina	0	0	0	0	0	0	0
Virginia	26	17	84	132	17	26	7
West Virginia	569	1,527	1,165	763	753	591	583
East South Central	**242**	**581**	**683**	**443**	**578**	**642**	**500**
Alabama	34	64	116	62	133	178	216
Kentucky	128	191	415	279	340	402	232
Mississippi	32	69	58	33	37	28	41
Tennessee	48	257	94	69	68	34	11
West South Central	**3,872**	**7,627**	**5,720**	**3,388**	**3,334**	**3,316**	**2,528**
Arkansas	24	121	256	157	171	190	106
Louisiana	830	1,787	1,007	540	535	533	330
Oklahoma	667	2,146	1,483	1,092	1,008	921	657
Texas	2,351	3,573	2,974	1,599	1,620	1,672	1,435
Mountain	**1,108**	**2,179**	**1,195**	**851**	**714**	**948**	**875**
Arizona	0	0	0	0	0	0	0
Colorado	268	546	399	415	333	459	331
Idaho	0	0	0	0	0	0	0
Montana	265	226	83	94	71	73	112
Nevada	0	1	0	0	0	0	0
New Mexico	464	1,061	577	241	227	317	327
Utah	16	97	62	52	23	27	11
Wyoming	95	248	74	49	60	72	94
Pacific	**52**	**90**	**123**	**101**	**86**	**96**	**56**
Alaska	3	2	0	5	4	3	1
California	49	86	120	94	75	86	51
Hawaii	0	0	0	0	0	0	4
Oregon	0	2	3	2	7	7	0
Washington	0	0	0	0	0	0	0
Federal Waters	**0**	**0**	**206**	**6**	**3**	**13**	**3**

a. Data is published "as reported"; therefore, recent periods are incomplete and understate actual drilling levels. See detailed explanation at the beginning of this section.

b. Reflects API estimates. State totals do not add to U.S. total. See Footnote a.

R–Revised. P–Preliminary.

Source: American Petroleum Institute, *Well Completions and Footage Drilled in the U.S.* (Data for 1975, 1980 and 1985); *Quarterly Completion Report*, Fourth Quarter, 1986 (1984 Data); Fourth Quarter, 1985 (1983 Data); Second Quarter, 1987 (1985 Data); Fourth Quarter, 1989 (1986, 1987, 1988 and 1989 data).

SUPPLY

TABLE 3-20
NEW FIELD WILDCAT WELLS DRILLED AND PROPORTION SUCCESSFUL
1971-1989[a]

Year	Total Drilled	Dry	Productive	Percent Productive
1971	4,636	4,161	475	10.2
1972	5,011	4,454	557	11.1
1973	5,096	4,346	750	14.7
1974	5,946	5,084	862	14.5
1975	6,238	5,315	923	14.8
1976	5,856	4,871	985	16.8
1977	6,162	5,170	992	16.1
1978	6,731	5,603	1,128	16.8
1979	6,423	5,203	1,220	19.0
1980	7,332	5,973	1,359	18.5
1981	9,151	7,563	1,588	17.4
1982	7,386	6,061	1,325	17.9
1983	6,057	5,063	994	16.4
1984	6,528	5,545	983	15.1
1985	5,569	4,801	768	13.8
1986	3,484	2,996	488	14.0
1987[R]	3,515	3,007	508	14.5
1988[R]	3,210	2,757	453	14.1
1989[P]	2,212	1,959	253	11.4

a. Data is published "as reported"; therefore, recent periods are incomplete and understate actual drilling levels. See detailed explanation at the beginning of this section.

R–Revised. P--Preliminary.

Source: American Petroleum Institute, *Quarterly Completion Report*, Fourth Quarter, 1989.

TABLE 3-21
NEW WELL COMPLETIONS, BY TYPE OF WELL, 1971-1989[a]

Year	Total[b]	Oil	Gas	Dry	Service[c]
1971	26,268	11,903	3,983	10,382	1,365
1972	27,934	11,437	5,484	11,013	1,458
1973	27,692	10,251	6,975	10,466	908
1974	33,037	13,664	7,168	12,205	1,132
1975	38,884	16,979	8,169	13,736	1,612
1976	40,940	17,697	9,438	13,805	1,528
1977	45,855	18,700	12,119	15,036	1,320
1978	50,061	19,065	14,405	16,591	1,547
1979	51,890	20,689	15,166	16,035	1,424
1980	69,486	32,120	17,132	20,234	1,952
1981	89,234	42,520	19,742	26,972	2,223
1982	83,889	39,252	18,810	25,827	2,051
1983	75,738	37,396	14,505	23,837	1,917
1984	84,983	44,472	14,962	25,549	2,104
1985	70,708	36,374	12,875	21,459	1,627
1986	38,241	18,272	7,862	12,107	755
1987[R]	34,661	15,881	7,697	11,083	858
1988[R]	30,444	12,772	7,949	9,723	895
1989[P]	20,775	7,734	6,156	6,885	419

a. See detailed explanation at the beginning of this section.

b. Includes Oil, Gas and Dry, but not service.

c. Excludes stratigraphic and core tests. Based on "as reported" data. Not included in Total.

R–Revised. P–Preliminary.

Source: Oil and Gas Journal prior to 1968, American Petroleum Institute, *Quarterly Completion Report*, Fourth Quarter, 1989.

Note: All data from 1982-1989 reflects API estimates except service.

TABLE 3-22
NEW WELL COMPLETIONS, BY TYPE OF WELL AND STATE, 1989[a]

Division and State	Total[b]	Oil	Gas	Dry	Service
United States	**20,775**	**7,734**	**6,156**	**6,885**	**419**
New England	**0**	**0**	**0**	**0**	**0**
Middle Atlantic	**590**	**37**	**520**	**33**	**0**
New Jersey	0	0	0	0	0
New York	58	5	45	9	0
Pennsylvania	532	32	475	25	0
East North Central	**2,114**	**760**	**713**	**641**	**36**
Illinois	694	287	31	376	32
Indiana	135	41	9	85	3
Michigan	674	45	481	148	1
Ohio	611	387	192	32	0
Wisconsin	0	0	0	0	0
West North Central	**2,172**	**719**	**371**	**1,082**	**3**
Iowa	5	0	0	5	0
Kansas	1,940	616	368	956	3
Minnesota	0	0	0	0	0
Missouri	6	1	0	5	0
Nebraska	80	21	0	59	0
North Dakota	134	80	3	51	0
South Dakota	7	1	0	6	0
South Atlantic	**640**	**20**	**590**	**30**	**0**
Delaware	0	0	0	0	0
District of Columbia	0	0	0	0	0
Florida	11	0	0	11	0
Georgia	0	0	0	0	0
Maryland	0	0	0	0	0
North Carolina	0	0	0	0	0
South Carolina	0	0	0	0	0
Virginia	13	0	7	6	0
West Virginia	616	20	583	13	0
East South Central	**1,236**	**242**	**500**	**494**	**1**
Alabama	332	14	216	102	0
Kentucky	607	149	232	226	1
Mississippi	264	64	41	159	0
Tennessee	33	15	11	7	0
West South Central	**10,367**	**4,109**	**2,528**	**3,730**	**272**
Arkansas	270	29	106	135	0
Louisiana	1,228	217	330	681	6
Oklahoma	2,069	785	657	627	44
Texas	6,800	3,078	1,435	2,287	222
Mountain	**2,074**	**546**	**875**	**653**	**30**
Arizona	1	0	0	1	0
Colorado	631	62	331	238	3
Idaho	0	0	0	0	0
Montana	197	21	112	64	0
Nevada	16	8	0	8	0
New Mexico	739	296	327	116	14
Utah	69	37	11	21	2
Wyoming	421	122	94	205	11
Pacific	**1,502**	**1,291**	**56**	**155**	**77**
Alaska	59	52	1	6	12
California	1,426	1,239	51	136	65
Hawaii	0	0	0	0	0
Oregon	14	0	4	10	0
Washington	3	0	0	3	0
Federal Waters	**80**	**10**	**3**	**67**	**0**

a. Based on "as reported" data; therefore data understates actual levels of drilling activity. See detailed explanation at the beginning of this section.

b. Excludes service wells, stratigraphic and core tests.

Source: American Petroleum Institute, *Quarterly Completion Report.*

TABLE 3-17

NATURAL GAS TREATED FOR NATURAL GASOLINE AND ALLIED PRODUCTS, AND QUANTITIES AND VALUE OF PRODUCTS RECOVERED, 1967–1989[a]

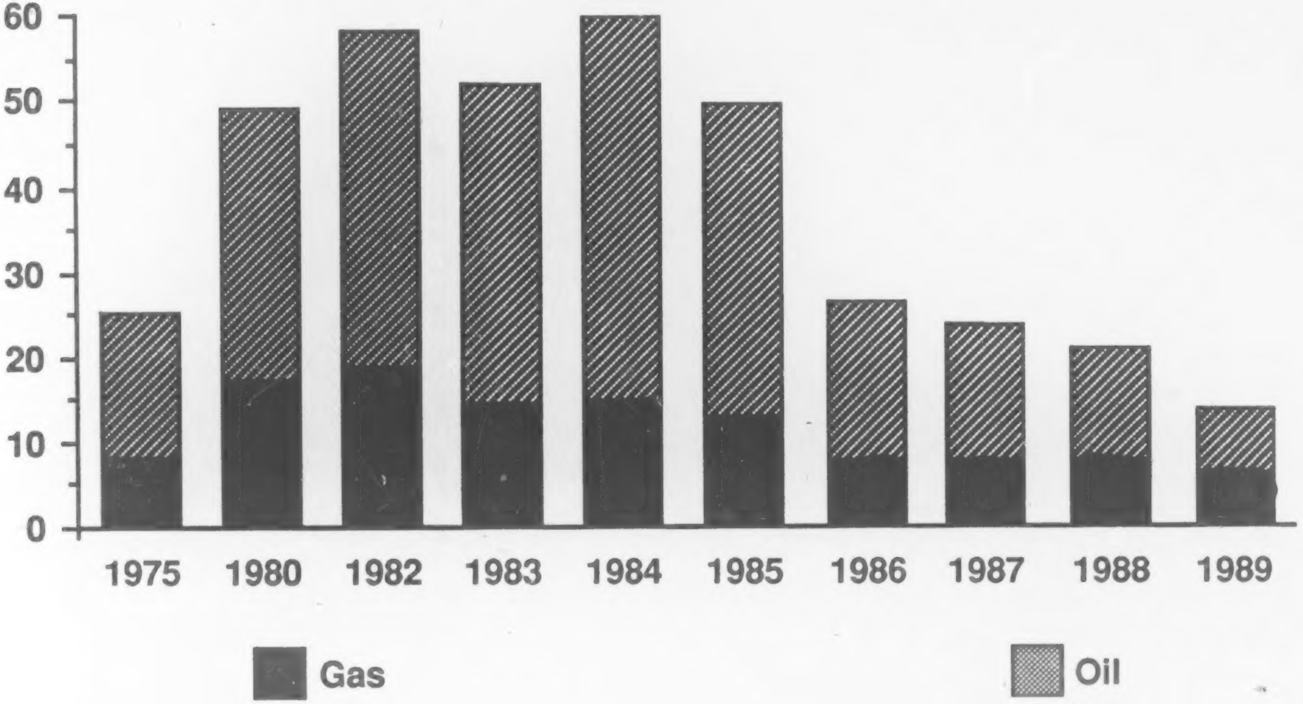
		Products Recovered							
	Natural Gas Treated	Natural Gasoline		Liquefied Petroleum Gases		Finished Gasoline and Naphtha		Other Products[b]	
Year	(Millions of cubic feet)	Quantity (Thousands of gallons)	Value (Thousands of dollars)	Quantity (Thousands of gallons)	Value (Thousands of dollars)	Quantity (Thousands of gallons)	Value (Thousands of dollars)	Quantity (Thousands of gallons)	Value (Thousands of dollars)
1967	15,641,633	5,850,271	389,156	13,717,861	632,994	307,263	28,044	1,731,727	129,742
1968	16,316,674	6,210,708	411,695	14,753,004	552,335	280,728	26,577	1,868,622	133,407
1969	17,655,108	6,633,018	457,986	15,895,194	498,927	374,514	36,954	1,467,396	108,144
1970	18,509,309	6,935,838	468,602	16,783,662	672,088	240,702	23,234	1,488,270	111,188
1971	19,252,807	6,942,474	496,676	17,540,628	769,397	224,784	23,210	1,240,344	96,771
1972	19,906,893	6,875,442	500,425	18,678,912	828,718	186,732	20,737	1,063,986	83,261
1973	19,679,291	6,791,736	568,214	18,775,386	1,188,289	136,038	13,902	942,606	86,668
1974	18,684,480	6,212,766	974,825	18,813,732	1,980,769	52,878	10,028	797,664	122,305
1975	17,748,426	5,620,608	777,637	18,651,612	1,893,890	45,528	8,411	712,488	92,650
1976	17,717,951	5,575,584	882,718	18,369,372	2,298,647	40,572	9,650	670,362	93,074
1977	17,569,835	5,587,134	c	18,604,152	c	30,156	c	577,668	c
1978	c	5,306,784	c	18,124,512	c	28,896	c	567,420	c
1979	c	4,042,668	c	26,008,878	c	271,908	c	917,952	c
1980	c	4,560,696	c	18,518,304	c	239,694	c	864,360	c
1981	c	4,471,740	c	19,259,772	c	154,014	c	773,472	c
1982	c	3,850,308	c	19,277,622	c	93,030	c	545,916	c
1983	c	3,015,684	c	20,142,276	c	128,772	c	608,160	c
1984	c	4,490,136	c	20,506,248	c	2,898	c	52,752	c
1985	c	4,321,212	c	20,131,440	c	89,124	c	127,260	c
1986	c	4,122,930	c	19,581,912	c	4,872	c	62,286	c
1987	c	4,462,626	c	19,927,362	c	5,166	c	61,068	c
1988	c	4,649,694	c	20,268,192	c	4,914	c	54,264	c
1989	c	4,737,054	c	18,956,196	c	c	c	c	c

a. Due to changes in reporting requirements, 1979-1988 data is not comparable with prior years. Beginning in 1989 data for "Finished Gasoline and Naphtha" and "Other Products" are no longer available.
b. Includes kerosene, distillate fuel oil, and miscellaneous products.
c. Not available.
Source: U.S. Department of Energy, Energy Information Administration, *Petroleum Supply Annual*, 1989.

CHART 3-2

TOTAL GAS AND OIL NEW WELL COMPLETIONS

(THOUSANDS)



REFERENCE: TABLE 3-21

TABLE 3-23
HOLES DRILLED AND PROPORTION SUCCESSFUL, BY TYPE OF EXPLORATION HOLE
1975-1989

	Outposts-Extensions	New-Pool Wildcats	Deeper-Pool Tests	Shallower-Pool Tests	New-Field Wildcats	Total
1975						
Drilled	1,577	1,112	288	133	6,104	9,214
Dry	905	719	181	38	5,228	7,071
Productive	672	393	107	95	876	2,143
Percent Productive	42.6	35.3	37.2	71.4	14.4	23.3
1980						
Drilled	1,981	1,819	789	293	7,034	11,916
Dry	1,104	952	523	69	5,694	8,342
Productive	877	867	266	224	1,340	3,574
Percent Productive	44.3	47.7	33.7	76.4	19.1	30.0
1982						
Drilled	3,328	2,870	1,782	613	7,914	16,507
Dry	1,864	1,699	1,315	233	6,512	11,623
Productive	1,464	1,171	467	380	1,402	4,884
Percent Productive	44.0	40.8	26.2	62.0	17.7	29.6
1983						
Drilled	2,498	2,281	1,979	640	6,489	13,887
Dry	1,437	1,340	1,491	288	5,351	9,907
Productive	1,061	941	488	352	1,138	3,980
Percent Productive	42.5	41.3	24.7	55.0	17.5	28.7
1984						
Drilled	3,340	2,580	2,311	758	6,088	15,077
Dry	2,077	1,618	1,869	384	5,208	11,156
Productive	1,263	962	442	374	880	3,921
Percent Productive	37.8	37.3	19.1	49.3	14.5	26.0
1985						
Drilled	2,510	2,343	2,013	602	6,364	13,832
Dry	1,473	1,356	1,627	291	5,355	10,102
Productive	1,037	987	386	311	1,009	3,730
Percent Productive	41.3	42.1	19.2	51.7	15.9	27.0
1986						
Drilled	1,596	579	1,709	391	4,731	9,006
Dry	888	162	1,485	210	4,039	6,784
Productive	708	417	224	181	692	2,222
Percent Productive	44.4	72.0	13.1	46.3	14.6	24.7
1987						
Drilled	1,251	367	1,357	310	3,716	7,001
Dry	744	117	1,174	174	3,210	5,419
Productive	507	250	183	136	506	1,582
Percent Productive	40.5	68.1	13.5	43.9	13.6	22.6
1988						
Drilled	1,183	556	1,136	217	3,462	6,554
Dry	683	263	962	135	2,993	5,036
Productive	500	293	174	82	469	1,518
Percent Productive	42.3	52.7	15.3	37.8	13.6	23.2
1989						
Drilled	1,102	406	998	239	2,933	5,678
Dry	677	158	869	127	2,552	4,383
Productive	425	248	129	112	381	1,295
Percent Productive	38.6	61.1	12.9	46.9	13.0	22.8

Source: Committee on Statistics of Drilling, *American Association of Petroleum Geologists Bulletin*, 1989.

TABLE 3-24
EXPLORATORY WELLS AND DRY HOLES DRILLED, BY STATE AND TYPE OF WELL, 1989[a]

Division and State	Total Drilled	Dry Holes	Producers		
			Total	Oil	Gas
United States	**5,080**	**3,856**	**1,224**	**579**	**645**
New England	**0**	**0**	**0**	**0**	**0**
Middle Atlantic	**34**	**11**	**23**	**0**	**23**
New Jersey	0	0	0	0	0
New York	4	3	1	0	1
Pennsylvania	30	8	22	0	22
East North Central	**529**	**436**	**93**	**36**	**57**
Illinois	263	237	26	14	12
Indiana	72	61	11	9	2
Michigan	177	129	48	10	38
Ohio	17	9	8	3	5
Wisconsin	0	0	0	0	0
West North Central	**1,029**	**757**	**272**	**208**	**64**
Iowa	5	5	0	0	0
Kansas	870	642	228	164	64
Minnesota	0	0	0	0	0
Missouri	5	5	0	0	0
Nebraska	62	53	9	9	0
North Dakota	80	45	35	35	0
South Dakota	7	7	0	0	0
South Atlantic	**17**	**11**	**6**	**0**	**6**
Delaware	0	0	0	0	0
District of Columbia	0	0	0	0	0
Florida	9	9	0	0	0
Georgia	0	0	0	0	0
Maryland	0	0	0	0	0
North Carolina	0	0	0	0	0
South Carolina	0	0	0	0	0
Virginia	2	2	0	0	0
West Virginia	6	0	6	0	6
East South Central	**393**	**306**	**87**	**33**	**54**
Alabama	110	74	36	8	28
Kentucky	145	127	18	10	8
Mississippi	132	100	32	14	18
Tennessee	6	5	1	1	0
West South Central	**2,178**	**1,630**	**548**	**200**	**348**
Arkansas	58	45	13	3	10
Louisiana	254	225	29	10	19
Oklahoma	209	146	63	20	43
Texas	1,657	1,214	443	167	276
Mountain	**693**	**516**	**177**	**96**	**81**
Arizona	1	1	0	0	0
Colorado	311	251	60	31	29
Idaho	0	0	0	0	0
Montana	62	39	23	10	13
Nevada	12	10	2	2	0
New Mexico	93	51	42	23	19
Utah	25	17	8	4	4
Wyoming	189	147	42	26	16
Pacific	**137**	**120**	**17**	**5**	**12**
Alaska	6	6	0	0	0
California	120	103	17	5	12
Hawaii	0	0	0	0	0
Oregon	8	8	0	0	0
Washington	3	3	0	0	0
Federal Waters	**70**	**69**	**1**	**1**	**0**

a. See detailed explanation at the beginning of this section.
Source: American Petroleum Institute, *Quarterly Completion Report*, Second Quarter 1990.

TABLE 3-25
DRILLING OPERATIONS AND EXPENDITURES, BY TYPE OF WELL, 1987-1988[a]

	Total	Oil	Gas[b]	Dry
		1987		
Wells drilled	33,041	15,326	7,255	10,460
Footage drilled (000)	157,357	64,602	39,674	53,080
Expenditures (000)	$ 9,238,749	$ 3,769,430	$2,759,470	$2,709,850
Average depth per well (ft)	4,762	4,215	5,469	5,075
Average cost per well	$ 279,615	$ 245,950	$ 380,354	$ 259,068
Average cost per foot	$ 58.71	$ 58.35	$ 69.55	$ 51.05
		1988		
Wells drilled	29,741	12,434	7,820	9,487
Footage drilled (000)	150,216	55,781	42,522	51,912
Expenditures (000)	$10,549,522	$ 3,474,161	$3,599,505	$3,475,856
Average depth per well (ft)	5,051	4,486	5,438	5,472
Average cost per well	$ 354,713	$ 279,408	$ 460,295	$ 366,381
Average cost per foot	$ 70.23	$ 62.28	$ 84.64	$ 66.96

a. Includes all charges for drilling and equipping wells up to and including the "Christmas" trees, but excludes exploration, development and production costs and expenditures for service wells.
b. Includes condensate wells.
Source: American Petroleum Institute, *Joint Association Survey on Drilling Costs*, December 1989.

TABLE 3-26
OFFSHORE DRILLING OPERATIONS AND EXPENDITURES, BY TYPE OF WELL, 1987-1988[a]

	Total	Oil	Gas[b]	Dry
		1987		
Wells drilled	709	224	142	343
Footage drilled (000)	7,345	2,172	1,548	3,625
Expenditures (000)	$2,053,285	$ 696,024	$ 421,325	$ 935,936
Average depth per well (ft)	10,360	9,695	10,904	10,569
Average cost per well	$2,896,030	$3,107,252	$2,967,077	$2,728,676
Average cost per foot	$ 279.54	$ 320.50	$ 272.10	$ 258.18
		1988		
Wells drilled	866	183	192	491
Footage drilled (000)	9,334	1,859	2,164	5,311
Expenditures (000)	$2,694,627	$ 526,696	$ 692,151	$1,475,780
Average depth per well (ft)	10,779	10,161	11,269	10,817
Average cost per well	$3,111,579	$2,878,120	$3,604,952	$3,005,663
Average cost per foot	$ 288.67	$ 283.25	$ 319.90	$ 277.86

a. Includes all charges for drilling and equipping wells up to and including the "Christmas" trees, but excludes exploration, development and production costs and expenditures for service wells.
b. Includes condensate wells.
Source: American Petroleum Institute, *Joint Association Survey on Drilling Costs*, December 1989.

TABLE 3-27
AVERAGE COST PER FOOT BY TYPE OF WELL, BY DEPTH CLASSES, 1984-1988[a]

Depth Range (in feet)	Total	Oil	Gas	Dry
1984				
0- 1,249	$ 37.61	$ 41.49	$ 39.43	$ 24.90
1,250- 2,499	37.79	43.91	39.46	24.04
2,500- 3,749	38.73	45.75	40.28	24.70
3,750- 4,999	38.96	46.96	40.86	27.38
5,000- 7,499	50.91	60.26	51.17	37.97
7,500- 9,999	72.53	72.38	89.14	61.23
10,000-12,499	110.00	110.48	128.02	95.02
12,500-14,999	172.41	175.18	189.63	158.07
15,000-17,499	258.70	234.18	279.90	250.02
17,500-19,999	338.58	299.16	326.98	352.65
20,000 and over	574.81	447.54	545.20	625.53
1985				
0- 1,249	$ 35.39	$ 38.32	$ 36.38	$ 25.79
1,250- 2,499	38.81	44.40	41.28	24.64
2,500- 3,749	39.10	44.36	42.05	27.53
3,750- 4,999	38.62	45.71	40.14	28.09
5,000- 7,499	50.58	58.29	53.46	38.04
7,500- 9,999	76.85	76.13	90.81	68.99
10,000-12,499	113.68	103.56	127.28	113.25
12,500-14,999	171.90	157.41	204.18	155.54
15,000-17,499	276.97	285.93	299.27	258.17
17,500-19,999	323.87	390.31	316.85	317.55
20,000 and over	506.29	272.77	505.90	525.57
1986				
0- 1,249	$ 34.70	$ 39.47	$ 39.13	$ 21.30
1,250- 2,499	36.49	41.39	40.57	24.51
2,500- 3,749	37.31	43.27	40.36	24.64
3,750- 4,999	32.98	36.87	37.04	25.41
5,000- 7,499	46.36	53.14	47.45	37.61
7,500- 9,999	73.17	74.37	77.66	67.97
10,000-12,499	114.20	128.76	120.11	94.44
12,500-14,999	177.23	165.90	207.39	164.08
15,000-17,499	283.52	259.14	309.14	271.09
17,500-19,999	310.98	337.88	346.10	283.70
20,000 and over	596.27	478.83	640.53	597.67
1987				
0- 1,249	$ 34.16	$ 40.10	$ 32.64	$ 19.05
1,250- 2,499	35.60	41.22	40.76	21.01
2,500- 3,749	33.93	36.65	42.86	22.64
3,750- 4,999	30.68	34.90	35.39	22.87
5,000- 7,499	38.06	45.15	39.05	29.02
7,500- 9,999	59.83	66.93	64.63	42.83
10,000-12,499	95.09	116.55	97.03	74.14
12,500-14,999	137.43	155.39	139.25	125.24
15,000-17,499	183.23	175.43	196.91	172.48
17,500-19,999	239.08	108.70	230.19	255.61
20,000 and over	581.66	—	425.86	680.53
1988				
0- 1,249	$ 36.44	$ 46.26	$ 33.41	$ 18.00
1,250- 2,499	40.07	45.11	47.74	22.40
2,500- 3,749	39.34	40.97	52.00	23.57
3,750- 4,999	32.68	36.49	37.79	24.33
5,000- 7,499	40.60	46.53	43.28	31.98
7,500- 9,999	65.64	67.35	72.03	57.96
10,000-12,499	108.96	113.43	119.09	98.05
12,500-14,999	152.97	149.77	170.42	140.24
15,000-17,499	227.20	204.85	245.84	217.97
17,500-19,999	268.91	269.96	293.34	250.93
20,000 and over	454.54	198.09	552.09	422.40

a. Includes all charges for drilling and equipping wells up to and including the "Christmas" trees but excludes exploration, development and production costs and expenditures for service wells.

Source: American Petroleum Institute, *Joint Association Survey on Drilling Costs,* December 1988.

TABLE 3-28
SELECT WORLD NATURAL GAS STATISTICS
1988

Country	Production	Imports	Exports	Gross Consumption	Residential Consumers (000)	Miles of Pipeline (000)
	(Trillions of Btu)					
Austria	43.2	128.4	—	175.80	970[a]	7.8[a]
Belgium	0.6	295.2	10.7	287.1	1,959	21.6
Canada	3,727.8	13.8	1,289.7	2,458.0	3,253	153.0[a]
Czechoslovakia	29.0	359.5	19.9	362.5	2,632	20.4[a]
Denmark	84.3	—	29.4	55.6	357[c]	2.7[d]
Finland	—	56.7	—	56.7	92	.8
France	103.4	866.5	17.7	942.4	8,749	88.1
German Democratic Republic	126.2	224.8	7.7	346.2	3,484	26.5
Federal Republic of Germany	474.7	1,321.5	40.3	1,770.5	9,500	122.7
Greece	5.3	—	—	5.3	6	.3
Hungary	194.4	170.1	.7	360.7	1,470	14.0
Ireland	66.2	—	—	66.2	143[a]	2.5[a]
Italy	534.9	799.3	.9	1,355.9	10,550	85.0
Luxembourg	—	15.6	—	15.6	59[b]	.6[b]
Netherlands	1,968.7	75.4	834.4	1,209.0	5,241[a]	59.7[a]
Norway	1,043.1	—	954.2	88.9	2[d]	.1[b]
Poland	148.5	238.8	—	385.0	5,296	32.0
Spain	32.2	112.9	—	143.0	1,722	8.1
Switzerland	.2	55.9	.6	55.6	482	6.7
USSR	24,850.5	32.7	2855.1	21,422.0	68,349	268.9
United Kingdom	1,531.7	403.0	—	1,869.9	16,500[a]	150.0[a]
United States	15,868.8	1,213.1	70.0	16,894.7	47,710[a]	1,056.4[a]
Yugoslavia	87.2	146.7	—	227.9	418	4.6

a. 1987 data.
b. 1986 data.
c. 1984 data.
d. 1983 data.
Source: United Nations, *Annual Bulletin of Gas Statistics for Europe*, 1988.

TABLE 3-29
WORLD WELL COMPLETIONS
1987[a]

Area	Oil	Gas	Dry	Service	Suspended	Total Wells	Total Footage
North America	19,917	9,695	13,007	865	17	43,522[b]	194,891,712
South America	1,984	89	412	105	163	2,753	15,510,799
Far East	5,055	646	203	1,341	97	8,503[c]	49,520,731
Western Europe	295	220	221	46	97	879	7,242,765
Middle East	290	22	64	33	51	667[d]	4,854,022
Africa	237	31	146	41	20	475	3,975,081
Oceana	82	50	160	0	16	308	2,114,456
World Total	27,860	10,753	14,213	2,431	461	57,107	278,109,566

a. No drilling data available for Eastern Europe, USSR, Iraq, Syria, Yemen and Cuba.
b. Total does not add due to inclusion of 21 total wells from Cuba.
c. Total does not add due to inclusion of 1,161 total wells from China.
d. Total does not add due to inclusion of 52 total wells from Iraq, 100 total wells from Syria and 55 total wells from Yemen.
Source: *World Oil*, August 1988.

WORLD WELL COMPLETIONS
1988[a]

Area	Oil	Gas	Dry	Service	Suspended	Total Wells[b]	Total Footage
North America	15,959	9,166	11,374	1,066	34	37,599[c]	177,217,122
South America	2,007	85	460	96	13	2,661	15,598,420
Far East	5,829	158	218	1,771	96	10,022	58,190,278
Western Europe	308	277	250	46	49	930	8,120,771
Middle East	342	35	83	28	38	690	4,700,896
Africa	200	37	125	52	10	589	4,878,189
Oceania	96	67	157	0	24	344	2,183,518
World Total	24,741	9,825	12,667	3,059	264	52,835	270,889,194

a. No drilling data available for Eastern Europe and USSR.
b. 1988 wells drilled totals and subtotals may not add horizontally due to lack of breakdown in some countries.
c. Includes actual United States well count by American Petroleum Institute. Number will increase as additional well completions are reported to API.
Source: *World Oil*, August 1989.

WORLD WELL COMPLETIONS
1989[a]

Area	Oil	Gas	Dry	Service	Suspended	Total Wells	Total Footage
North America	11,110	10,338	9,257	733	21	31,459[c]	146,313,142
South America	1,662	64	352	73	35	2,186	12,569,588
Far East	6,669	149	103	1,582	13	10,790	60,331,648
Western Europe	207	161	196	56	111	731	6,690,111
Middle East	509	28	78	96	38	885	5,841,601
Africa	166	32	90	47	17	533	4,381,762
Oceania	101	40	116	2	0	259	1,921,798
World Total	20,424	10,812	10,192	2,589	235	46,843	238,049,650

a. No drilling data available for Eastern Europe, USSR, and North Korea.
b. 1989 wells drilled totals and subtotals may not add horizontally due to lack of breakdown in some countries.
c. Includes actual United States well count by American Petroleum Institute (API). Number will increase as additional well completions are reported to API.
Source: *World Oil*, August 1990.

SECTION 4
UNDERGROUND GAS STORAGE

	1989	% Change 89/88
Number of Pools	395	+ 0.5
Est. Ultimate Capacity (Millions of cubic feet)	7,737,197	− 0.8
Input to Storage (Millions of cubic feet)	2,095,660	+ 0.5
Output from Storage (Millions of cubic feet)	2,407,891	+ 22.9
Maximum Day Output (Millions of cubic feet)	46,503	+ 19.0

TABLE 4-1
NUMBER OF UNDERGROUND STORAGE POOLS AND ULTIMATE CAPACITY IN THE UNITED STATES, 1967-1989

Year	Number of Pools	Number of States	Est. Ultimate Capacity (Billions of Cubic Feet)
1967	308	25	4,520
1968	315	26	4,783
1969	320	26	4,927
1970	325	26	5,178
1971	333	26	5,575
1972	348	26	6,040
1973	360	26	6,279
1974	367	26	6,360
1975	376	26	6,644
1976	386	26	6,927
1977	385	26	7,223
1978	388	26	7,330
1979	399	26	7,437
1980	401	26	7,488
1981	393	26	7,581
1982	404	26	7,727
1983	419	26	7,755
1984	412	26	7,783
1985	400	26	7,731
1986	396	26	7,792
1987	391	26	7,807
1988	393	27	7,797
1989	395	27	7,737

Source: A.G.A. *The Underground Storage of Gas in the United States and Canada*—1989 Update.

TABLE 4-2
NUMBER OF AQUIFER POOLS AND ULTIMATE CAPACITY IN THE UNITED STATES, 1971–1989[a]

Year	Number of Pools	Number of States	Est. Ultimate Capacity (Billions of Cubic Feet)
1971	44	8	1,056
1972	46	9	1,278
1973	49	10	1,399
1974	51	10	1,408
1975	52	10	1,459
1976	52	10	1,484
1977	52	10	1,578
1978	53	10	1,593
1979	56	10	1,601
1980	57	10	1,449
1981	57	10	1,423
1982	56	10	1,432
1983	56	10	1,421
1984	54	10	1,472
1985	52	10	1,401
1986	51	10	1,404
1987	48	10	1,386
1988	47	10	1,397
1989	50	10	1,428

a. These data are included in Table 4-1.
Source: Same as Table 4-1.

TABLE 4-3
LIQUEFIED NATURAL GAS STORAGE OPERATIONS IN THE UNITED STATES AS OF DECEMBER 31, 1989[a]

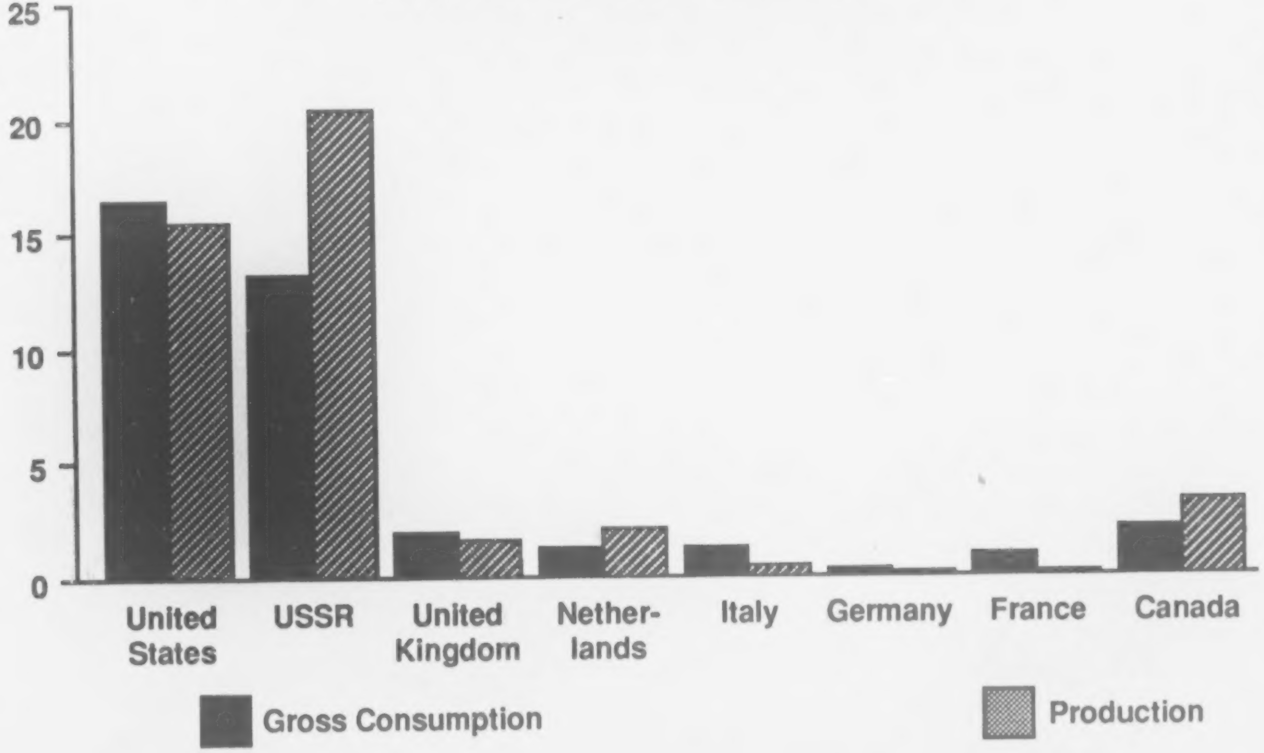
	Presently Operating	Proposed or Pending Operation
Complete Plants		
Storage Capacity—MMcf	63,388	0
Gross Liquefaction Capacity—MMcf/day	309	0
Sendout Capacity—MMcf/day	8,753	0
Number of Facilities	54	0
Satellite Plants		
Storage Capacity—MMcf	6,644	0
Sendout Capacity—MMcf/day	684	0
Number of Facilities	32	0
Import Terminals[b]		
Storage Capacity—MMcf	11,055	0
Sendout Capacity—MMcf/day	1,193	0
Number of Facilities	3	0

a. Not underground storage.
b. Of those presently operating, Algonquin terminal has been utilized for domestic storage since 1973.
Source: Institute of Gas Technology.

CHART 3-3

NATURAL GAS PRODUCTION AND GROSS CONSUMPTION, 1988

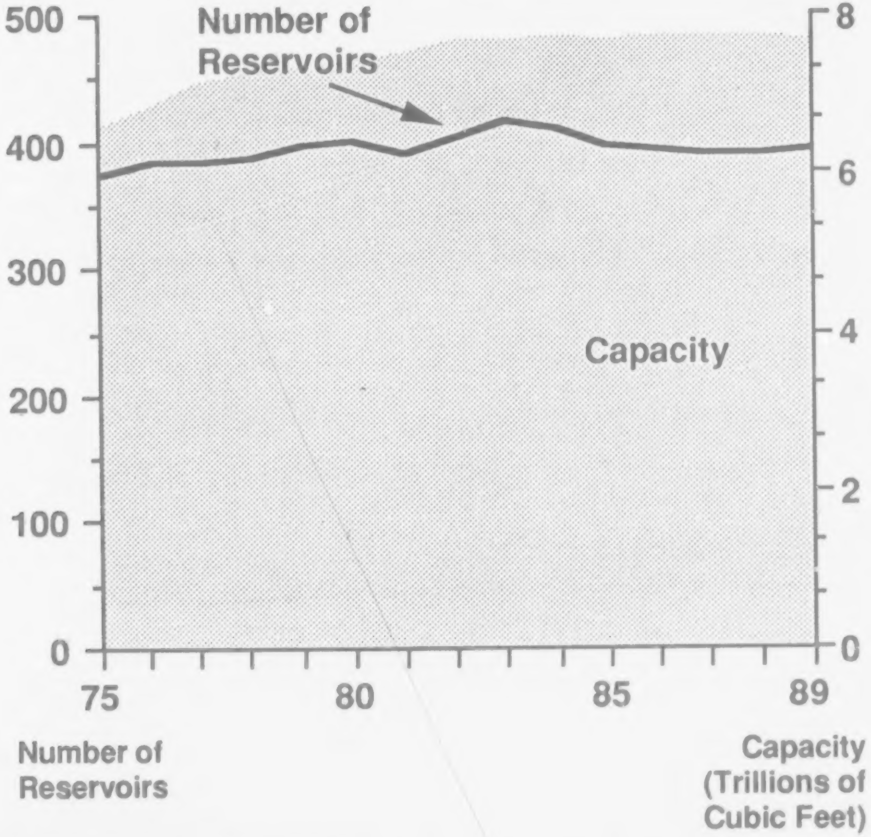
(QUADRILLIONS OF BTU)



REFERENCE: TABLE 3-28

CHART 4-1

NUMBER AND CAPACITY OF EXISTING UNDERGROUND STORAGE RESERVOIRS



REFERENCE: TABLE 4-1

UNDERGROUND STORAGE

TABLE 4-4
INPUTS, OUTPUTS, AND GAS IN UNDERGROUND STORAGE, BY STATE, 1989

(Millions of Cubic Feet)

	Year Ending December 31, 1989					
Division and State	Input to Storage	Output from Storage	Native Gas	Stored Gas	Maximum Stored Gas	Maximum Day Output
United States	**2,095,660**	**2,407,891**	**1,114,140**	**5,236,199**	**5,791,300**	**46,503**
New England	**0**	**0**	**0**	**0**	**0**	**0**
Middle Atlantic	**374,847**	**456,745**	**43,330**	**711,303**	**795,707**	**6,018**
New Jersey	0	0	0	0	0	0
New York	53,285	65,788	15,096	137,371	148,016	760
Pennsylvania	321,562	390,957	28,234	573,932	647,691	5,258
East North Central	**754,791**	**811,259**	**350,538**	**1,848,438**	**2,094,977**	**14,125**
Illinois	215,248	229,665	11,159	826,085	891,399	4,190
Indiana	19,368	21,549	19,298	83,891	88,999	519
Michigan	382,523	410,923	237,734	547,584	669,263	6,659
Ohio	137,652	149,122	82,347	390,878	445,316	2,757
Wisconsin	0	0	0	0	0	0
West North Central	**121,125**	**147,087**	**47,527**	**496,604**	**515,891**	**3,030**
Iowa	58,284	67,406	0	247,644	266,547	927
Kansas	54,665	69,821	23,735	151,484	150,793	1,514
Minnesota	1,224	1,555	0	6,883	6,904	56
Missouri	0	0	0	29,286	29,298	360
Nebraska	6,952	8,305	23,792	61,307	62,349	173
North Dakota	0	0	0	0	0	0
South Dakota	0	0	0	0	0	0
South Atlantic	**142,117**	**156,149**	**65,445**	**422,783**	**468,390**	**3,178**
Delaware	0	0	0	0	0	0
District of Columbia	0	0	0	0	0	0
Florida	0	0	0	0	0	0
Georgia	0	0	0	0	0	0
Maryland	14,633	15,234	32,456	21,375	29,221	306
North Carolina	0	0	0	0	0	0
South Carolina	0	0	0	0	0	0
Virginia	0	0	0	0	0	0
West Virginia	127,484	140,915	32,989	401,408	439,169	2,872
East South Central	**104,760**	**131,191**	**107,615**	**160,234**	**195,268**	**2,474**
Alabama	0	0	0	0	0	0
Kentucky	55,088	68,620	80,292	91,220	121,472	1,386
Mississippi	49,672	62,571	27,323	69,014	73,796	1,088
Tennessee	0	0	0	0	0	0
West South Central	**364,892**	**456,496**	**183,856**	**946,144**	**1,007,894**	**11,074**
Arkansas	1,306	2,188	22,000	11,913	12,324	85
Louisiana	166,272	218,064	72,011	392,272	406,060	2,576
Oklahoma	96,620	111,259	22,715	293,538	321,761	2,415
Texas	100,694	124,985	67,130	248,421	267,749	5,998
Mountain	**70,987**	**89,886**	**162,243**	**385,609**	**405,883**	**1,689**
Arizona	0	0	0	0	0	0
Colorado	32,329	31,566	31,427	66,127	74,316	824
Idaho	0	0	0	0	0	0
Montana	10,479	32,537	94,370	228,973	229,960	312
Nevada	0	0	0	0	0	0
New Mexico	13,240	17,027	10,600	31,091	32,902	273
Utah	966	993	0	3,922	3,872	61
Wyoming	13,973	7,763	25,846	55,496	64,833	219
Pacific	**162,141**	**159,078**	**153,586**	**265,084**	**307,290**	**4,915**
Alaska	0	0	0	0	0	0
California	146,138	144,996	151,694	228,570	266,109	4,405
Hawaii	0	0	0	0	0	0
Oregon	3,917	1,196	1,892	4,081	7,998	75
Washington	12,086	12,886	0	32,433	33,183	435

Source: Same as Table 4-1.

TABLE 4-5
NUMBER OF POOLS, WELLS, COMPRESSOR STATIONS, AND HORSEPOWER IN UNDERGROUND STORAGE FIELDS, BY STATE, 1987–1989

	Division and State	Number of Pools			Number of Active Wells		
		1987	1988	1989	1987	1988	1989
(1)	**United States**	**391**	**393**	**395**	**18,216**	**17,232**	**18,026**
(2)	**New England**	**0**	**0**	**0**	**0**	**0**	**0**
(3)	**Middle Atlantic**	**80**	**81**	**84**	**3,144**	**2,329**	**3,092**
(4)	New Jersey	0	0	0	0	0	0
(5)	New York	21	21	21	968	1,018	1,018
(6)	Pennsylvania	59	60	63	2,176	1,311	2,074
(7)	**East North Central**	**133**	**133**	**132**	**8,807**	**8,792**	**8,798**
(8)	Illinois	31	30	34	1,697	1,696	1,695
(9)	Indiana	28	28	28	924	924	916
(10)	Michigan	52	53	48	2,955	2,936	2,945
(11)	Ohio	22	22	22	3,231	3,236	3,242
(12)	Wisconsin	0	0	0	0	0	0
(13)	**West North Central**	**30**	**28**	**28**	**1,440**	**1,383**	**1,382**
(14)	Iowa	8	8	8	434	434	435
(15)	Kansas	18	16	16	789	735	733
(16)	Minnesota	1	1	1	66	63	63
(17)	Missouri	1	1	1	82	82	82
(18)	Nebraska	2	2	2	69	69	69
(19)	North Dakota	0	0	0	0	0	0
(20)	South Dakota	0	0	0	0	0	0
(21)	**South Atlantic**	**38**	**38**	**38**	**1,663**	**1,656**	**1,658**
(22)	Delaware	0	0	0	0	0	0
(23)	District of Columbia	0	0	0	0	0	0
(24)	Florida	0	0	0	0	0	0
(25)	Georgia	0	0	0	0	0	0
(26)	Maryland	1	1	1	82	82	82
(27)	North Carolina	0	0	0	0	0	0
(28)	South Carolina	0	0	0	0	0	0
(29)	Virginia	0	0	0	0	0	0
(30)	West Virginia	37	37	37	1,581	1,574	1,576
(31)	**East South Central**	**25**	**23**	**24**	**1,107**	**1,059**	**1,054**
(32)	Alabama	0	0	0	0	0	0
(33)	Kentucky	21	19	20	1,006	963	957
(34)	Mississippi	4	4	4	101	96	97
(35)	Tennessee	0	0	0	0	0	0
(36)	**West South Central**	**44**	**45**	**46**	**1,016**	**936**	**953**
(37)	Arkansas	5	4	4	12	12	11
(38)	Louisiana	8	8	8	380	296	305
(39)	Oklahoma	12	12	12	289	297	306
(40)	Texas	19	21	22	335	331	331
(41)	**Mountain**	**30**	**32**	**30**	**536**	**574**	**576**
(42)	Arizona	0	0	0	0	0	0
(43)	Colorado	10	12	12	196	238	238
(44)	Idaho	0	0	0	0	0	0
(45)	Montana	5	5	5	242	238	240
(46)	Nevada	0	0	0	0	0	0
(47)	New Mexico	3	3	3	43	43	43
(48)	Utah	2	2	2	19	19	19
(49)	Wyoming	10	10	8	36	36	36
(50)	**Pacific**	**11**	**13**	**13**	**503**	**503**	**513**
(51)	Alaska	0	0	0	0	0	0
(52)	California	9	9	9	426	426	418
(53)	Hawaii	0	0	0	0	0	0
(54)	Oregon	0	2	2	0	0	18
(55)	Washington	2	2	2	77	77	77

Source: Same as Table 4-1.

TABLE 4-5 (Continued)
NUMBER OF POOLS, WELLS, COMPRESSOR STATIONS, AND HORSEPOWER IN UNDERGROUND STORAGE FIELDS, BY STATE, 1987–1989

Number of Compressor Stations			Total HP Installed in Compressor Stations			
1987	1988	1989	1987	1988	1989	
283	**295**	**312**	**1,668,885**	**1,458,639**	**1,462,971**	(1)
0	**0**	**0**	**0**	**0**	**0**	(2)
46	**34**	**34**	**235,480**	**86,655**	**87,783**	(3)
0	0	0	0	0	0	(4)
12	14	14	28,110	30,960	30,960	(5)
34	20	20	207,370	55,695	56,823	(6)
88	**116**	**120**	**684,600**	**675,231**	**655,015**	(7)
29	27	27	220,170	220,170	199,570	(8)
14	13	14	19,145	18,711	18,745	(9)
27	58	61	338,355	328,860	329,210	(10)
18	18	18	106,930	107,490	107,490	(11)
0	0	0	0	0	0	(12)
22	**31**	**33**	**87,190**	**69,150**	**69,750**	(13)
3	2	4	30,040	14,000	14,000	(14)
15	14	14	35,210	33,210	33,210	(15)
1	1	1	2,400	2,400	3,000	(16)
1	1	1	8,850	8,850	8,850	(17)
2	13	13	10,690	10,690	10,690	(18)
0	0	0	0	0	0	(19)
0	0	0	0	0	0	(20)
17	**17**	**17**	**66,010**	**65,690**	**64,320**	(21)
0	0	0	0	0	0	(22)
0	0	0	0	0	0	(23)
0	0	0	0	0	0	(24)
0	0	0	0	0	0	(25)
1	1	1	11,000	11,000	11,000	(26)
0	0	0	0	0	0	(27)
0	0	0	0	0	0	(28)
0	0	0	0	0	0	(29)
16	16	16	55,010	54,690	53,320	(30)
33	**12**	**17**	**71,790**	**60,590**	**61,190**	(31)
0	0	0	0	0	0	(32)
30	10	15	36,290	36,290	36,290	(33)
3	2	2	35,500	24,300	24,900	(34)
0	0	0	0	0	0	(35)
40	**41**	**42**	**309,663**	**300,853**	**305,367**	(36)
3	3	3	2,500	2,500	2,500	(37)
7	6	6	129,100	115,460	115,460	(38)
9	8	8	78,510	78,150	78,150	(39)
21	24	25	99,553	104,743	109,257	(40)
26	**32**	**37**	**83,072**	**78,290**	**84,866**	(41)
0	0	0	0	0	0	(42)
8	9	9	34,628	30,396	35,428	(43)
0	0	0	0	0	0	(44)
6	11	11	24,225	24,225	24,225	(45)
0	0	0	0	0	0	(46)
3	3	5	11,180	11,180	13,180	(47)
2	2	2	1,900	1,350	1,350	(48)
7	7	10	11,139	11,139	10,683	(49)
11	**12**	**12**	**131,080**	**122,180**	**134,680**	(50)
0	0	0	0	0	0	(51)
10	10	10	118,580	118,580	118,580	(52)
0	0	0	0	0	0	(53)
0	1	1	0	3,600	3,600	(54)
1	1	1	12,500	0	12,500	(55)

TABLE 4-6
ULTIMATE CAPACITY OF EXISTING RESERVOIRS, BY STATE, 1989

(Millions of Cubic Feet)

Division and State	Cushion Gas			Working Gas	Ultimate Reservoir Capacity[a]
	Native	Injected	Total		
United States	**1,114,140**	**2,451,527**	**3,565,666**	**2,466,985**	**7,737,197**
New England	**0**	**0**	**0**	**0**	**0**
Middle Atlantic	**43,330**	**378,627**	**421,957**	**250,215**	**904,328**
New Jersey	0	0	0	0	0
New York	15,096	79,838	94,933	45,030	180,397
Pennsylvania	28,234	298,789	327.024	205,185	723,931
East North Central	**350,538**	**1,016,984**	**1,367,521**	**799,374**	**2,624,478**
Illinois	11,159	554,428	565,587	270,929	938,482
Indiana	19,298	56,612	75,910	25,166	163,056
Michigan	237,734	160,292	398,025	369,484	988,036
Ohio	82,347	245,652	327,999	133,795	534,904
Wisconsin	0	0	0	0	0
West North Central	**47,527**	**223,627**	**271,154**	**237,872**	**709,738**
Iowa	0	117,751	117,751	120,770	354,500
Kansas	23,735	85,908	109,643	41,405	196,926
Minnesota	0	4,689	4,689	1,794	20,000
Missouri	0	11,759	11,759	17,527	45,000
Nebraska	23,792	3,520	27,312	56,376	93,312
North Dakota	0	0	0	0	0
South Dakota	0	0	0	0	0
South Atlantic	**65,445**	**253,561**	**319,006**	**155,176**	**560,579**
Delaware	0	0	0	0	0
District of Columbia	0	0	0	0	0
Florida	0	0	0	0	0
Georgia	0	0	0	0	0
Maryland	32,456	14,221	46,677	6,552	64,770
North Carolina	0	0	0	0	0
South Carolina	0	0	0	0	0
Virginia	0	0	0	0	0
West Virginia	32,989	239,340	272,329	148,624	495,809
East South Central	**107,615**	**41,738**	**149,353**	**92,220**	**314,599**
Alabama	0	0	0	0	0
Kentucky	80,292	22,971	103,263	54,871	206,020
Mississippi	27,323	18,767	46,090	37,349	108,579
Tennessee	0	0	0	0	0
West South Central	**183,856**	**352,896**	**536,752**	**480,862**	**1,378,849**
Arkansas	22,000	0	22,000	11,030	38,000
Lousiana	72,011	191,072	263,083	122,310	562,625
Oklahoma	22,715	128,381	151,096	149,451	370,423
Texas	67,130	33,443	100,573	198,071	407,801
Mountain	**162,243**	**70,645**	**232,888**	**295,947**	**692,354**
Arizona	0	0	0	0	0
Colorado	31,427	31,028	62,455	35,851	116,197
Idaho	0	0	0	0	0
Montana	94,370	15,200	109,570	191,715	373,960
Nevada	0	0	0	0	0
New Mexico	10,600	12,828	23,428	14,477	91,353
Utah	0	2,778	2,778	1,094	5,389
Wyoming	25,846	8,811	34,657	52,810	105,455
Pacific	**153,586**	**113,449**	**267,035**	**155,319**	**552,272**
Alaska	0	0	0	0	0
California	151,694	90,750	242,444	139,583	506,331
Hawaii	0	0	0	0	0
Oregon	1,892	1,399	3,291	5,403	10,291
Washington	0	21,300	21,300	10,333	35,650

a. In some states or regions, the difference between the sum of the components and Ultimate Reservoir Capacity represents presently unused capacity.

Source: Same as Table 4-1.

SECTION 5
DISTRIBUTION AND TRANSMISSION

	1989	% Change 89/88
Miles of Pipeline		
(Thousands)		
Total	1,185.0	+ 1.4
Field & Gathering	90.6	− 1.8
Transmission	276.1	+ 0.4
Distribution	818.1	+ 2.2
Miles Installed		
(Thousands)	21.7	+10.7

DISTRIBUTION AND TRANSMISSION

TABLE 5-1
GAS UTILITY INDUSTRY MILES OF PIPELINE AND MAIN, BY TYPE, 1967-1989[a]

(Thousands)

Year	Total	Field and Gathering	Transmission Pipeline[b]	Distribution Main
1967	828.3	63.7	225.4	539.2
1968	861.6	64.4	234.5	562.7
1969	891.6	64.9	248.1	578.6
1970	913.3	66.3	252.2	594.8
1971	931.4	66.2	254.8	610.4
1972	948.1	66.9	258.1	623.1
1973	962.9	65.9	263.1	633.8
1974	974.1	66.4	262.2	645.6
1975	979.3	68.5	262.6	648.2
1976	987.7	70.3	258.2	659.1
1977	998.9	71.5	260.5	666.9
1978	1,013.0	74.9	260.6	677.5
1979	1,029.8	77.8	263.5	688.5
1980	1,051.8	83.5	266.5	701.8
1981	1,069.8	86.2	269.5	714.1
1982	1,083.4	90.5	271.7	721.2
1983	1,095.1	91.9	273.5	729.7
1984	1,102.4	93.7	271.9	736.8
1985	1,118.9	94.3	271.2	753.4
1986	1,134.1	93.8	271.0	769.3
1987	1,151.2	93.6	273.8	783.8
1988[R]	1,169.0	92.3	275.4	801.3
1989	1,185.0	90.6	276.3	818.1
Steel	943.3	89.3	273.1	581.0
Plastic[c]	187.1	1.2	3.1	182.8
Other	54.6	0.1	0.1	54.4

a. Excludes service pipe. Data not adjusted to common diameter equivalent. Mileage shown as of end of each year.

b. Includes 5.0 thousand miles of Underground Storage pipe in 1975, 5.3 thousand miles in 1976, 5.2 thousand miles in 1977, 6.0 thousand miles in 1978, 5.7 thousand miles in 1979, 6.2 thousand miles in 1980, 7.8 thousand miles in 1981, 5.5 thousand miles in 1982, 5.9 thousand miles in 1983 and 1984, 6.0 thousand miles in 1985, 1986, 1987, and 1988, 6.2 thousand miles in 1989 some of which was formerly included in Field and Gathering pipe.

c. Includes fiberglass.

R–Revised.

TABLE 5-2
GAS UTILITY INDUSTRY MILES OF PIPELINE AND MAIN, BY STATE, 1975-1989[a]

Division and State	1975	1980	1985	1986	1987	1988R	1989
United States	**979,263**	**1,051,774**	**1,118,875**	**1,134,110**	**1,151,172**	**1,168,988**	**1,185,015**
New England	**26,580**	**27,794**	**28,476**	**28,802**	**29,218**	**29,860**	**30,426**
Connecticut	5,991	6,710	6,550	6,612	6,658	6,814	6,911
Maine	461	395	411	415	376	433	443
Massachusetts	16,452	16,719	17,359	17,565	17,784	18,127	18,340
New Hampshire	1,093	1,163	1,283	1,293	1,417	1,419	1,615
Rhode Island	2,248	2,403	2,463	2,490	2,543	2,610	2,639
Vermont	335	404	410	427	[illegible]	457	478
Middle Atlantic	**113,993**	**116,439**	**121,682**	**122,872**	**123,837**	**125,232**	**126,891**
New Jersey	22,077	22,838	24,598	25,187	25,868	26,563	27,234
New York	40,535	41,394	42,334	42,578	43,104	43,497	44,090
Pennsylvania	51,381	52,207	54,750	55,107	54,865	55,172	55,567
East North Central	**190,172**	**200,361**	**206,889**	**209,076**	**211,702**	**214,612**	**217,991**
Illinois	50,252	53,375	54,541	54,960	55,381	56,061	56,725
Indiana	27,267	28,227	30,608	31,319	32,179	32,757	33,426
Michigan	40,203	44,100	44,694	45,130	45,516	46,044	46,681
Ohio	51,505	52,667	54,110	54,419	55,032	55,752	56,399
Wisconsin	20,945	21,992	22,936	23,248	23,594	23,998	24,760
West North Central	**106,134**	**112,901**	**115,855**	**118,070**	**119,385**	**120,715**	**122,028**
Iowa	17,273	17,892	18,254	18,282	18,473	18,675	18,684
Kansas	34,280	36,893	37,093	38,136	38,297	38,274	38,550
Minnesota	15,264	16,720	18,259	19,138	19,479	20,050	20,554
Missouri	20,897	21,854	21,875	22,034	22,545	23,035	23,432
Nebraska	13,333	14,079	14,381	14,436	14,456	14,498	14,576
North Dakota	2,533	2,854	3,208	3,231	3,253	3,269	3,286
South Dakota	2,554	2,609	2,785	2,813	2,882	2,914	2,946
South Atlantic	**100,496**	**103,960**	**112,722**	**114,677**	**117,374**	**120,545**	**123,600**
Delaware	1,322	1,336	1,428	1,455	1,496	1,631	1,726
District of Columbia	1,163	1,157	1,161	1,163	1,165	1,169	1,175
Florida	13,100	12,902	14,974	15,178	15,501	15,764	16,011
Georgia	22,679	24,676	27,190	28,011	28,823	30,153	31,402
Maryland	8,534	8,704	8,888	8,974	9,065	9,307	9,410
North Carolina	11,100	11,842	13,298	13,647	14,020	14,921	15,475
South Carolina	9,667	9,825	11,092	11,140	11,521	11,949	12,325
Virginia	10,944	11,226	12,315	12,959	13,606	13,986	14,157
West Virginia	21,987	22,292	22,376	22,150	22,177	21,665	21,919
East South Central	**70,345**	**73,807**	**78,485**	**79,255**	**81,038**	**83,337**	**86,133**
Alabama	17,832	19,556	20,779	21,120	21,438	22,010	22,109
Kentucky	19,816	19,981	20,991	20,989	21,238	21,626	21,866
Mississippi	17,056	17,911	18,666	18,820	18,926	19,055	19,183
Tennessee	15,641	16,359	18,049	18,326	19,436	20,646	22,975
West South Central	**194,820**	**216,394**	**237,776**	**242,607**	**246,590**	**248,884**	**249,484**
Arkansas	17,474	18,312	20,390	20,483	20,657	21,162	21,939
Louisiana	38,855	41,689	44,784	45,120	47,599	48,184	48,525
Oklahoma	32,798	37,132	42,594	42,483	42,452	42,682	42,593
Texas	105,693	119,261	130,008	134,521	135,882	136,856	136,427
Mountain	**83,184**	**97,391**	**107,410**	**107,423**	**108,904**	**109,963**	**111,549**
Arizona	15,197	16,669	17,341	17,573	17,773	17,923	18,085
Colorado	19,192	23,108	26,837	26,681	26,381	26,598	26,925
Idaho	3,785	4,177	4,589	4,701	4,665	4,708	4,769
Montana	7,435	8,822	8,965	9,040	9,232	9,320	9,465
Nevada	2,945	3,554	3,933	4,107	4,219	4,391	4,596
New Mexico	21,657	24,581	26,684	26,251	26,359	26,455	26,751
Utah	6,577	7,846	9,050	9,066	10,144	10,360	10,670
Wyoming	6,396	8,634	10,011	10,004	10,131	10,208	10,288
Pacific	**93,539**	**102,727**	**109,580**	**111,328**	**113,124**	**115,840**	**116,913**
Alaska	868	1,186	1,511	1,511	1,917	1,988	2,053
California	72,493	79,625	84,688	86,064	87,006	89,190	89,555
Hawaii	581	587	590	598	604	608	612
Oregon	8,838	9,709	10,390	10,585	10,670	10,788	11,044
Washington	10,759	11,620	12,401	12,570	12,927	13,266	13,649

a. Includes field, gathering, underground storage, transmission and distribution main but excludes service pipe. Data not adjusted to common diameter equivalent. Mileage shown as of end of year.

R–Revised.

DISTRIBUTION AND TRANSMISSION

TABLE 5-3
GAS UTILITY INDUSTRY MILES OF PIPELINE AND MAIN, BY STATE AND TYPE OF MAIN, 1989[a]

Division and State	Total	Field and Gathering	Transmission Pipeline[b]	Distribution Main
United States	**1,185,015**	**90,554**	**276,329**	**818,132**
New England	**30,426**	**0**	**1,721**	**28,705**
Connecticut	6,911	0	489	6,422
Maine	443	0	77	366
Massachusetts	18,340	0	901	17,439
New Hampshire	1,615	0	139	1,476
Rhode Island	2,639	0	58	2,581
Vermont	478	0	57	421
Middle Atlantic	**126,891**	**6,731**	**18,253**	**101,907**
New Jersey	27,234	0	1,592	25,642
New York	44,090	570	3,788	39,732
Pennsylvania	55,567	6,161	12,873	36,533
East North Central	**217,991**	**4,317**	**35,242**	**178,432**
Illinois	56,725	0	9,288	47,437
Indiana	33,426	144	5,918	27,364
Michigan	46,681	176	6,726	39,779
Ohio	56,399	3,997	9,983	42,419
Wisconsin	24,760	0	3,327	21,433
West North Central	**122,028**	**9,065**	**38,642**	**74,321**
Iowa	18,684	0	5,994	12,690
Kansas	38,550	8,788	14,668	15,094
Minnesota	20,554	0	4,305	16,249
Missouri	23,432	25	4,069	19,338
Nebraska	14,576	46	7,495	7,035
North Dakota	3,286	192	1,146	1,948
South Dakota	2,946	14	965	1,967
South Atlantic	**123,600**	**8,460**	**21,944**	**93,196**
Delaware	1,726	0	302	1,424
District of Columbia	1,175	0	24	1,151
Florida	16,011	0	2,917	13,094
Georgia	31,402	0	5,256	26,146
Maryland	9,410	23	867	8,520
North Carolina	15,475	0	2,382	13,093
South Carolina	12,325	0	2,402	9,923
Virginia	14,157	133	2,553	11,471
West Virginia	21,919	8,304	5,241	8,374
East South Central	**86,133**	**3,970**	**26,986**	**55,177**
Alabama	22,109	7	5,287	16,815
Kentucky	21,866	3,745	7,288	10,833
Mississippi	19,183	218	9,499	9,466
Tennessee	22,975	0	4,912	18,063
West South Central	**249,484**	**36,033**	**93,164**	**120,287**
Arkansas	21,939	1,371	6,970	13,598
Louisiana	48,525	2,669	26,801	19,055
Oklahoma	42,593	11,383	13,056	18,154
Texas	136,427	20,610	46,337	69,480
Mountain	**111,549**	**20,944**	**28,729**	**61,876**
Arizona	18,085	2	5,136	12,947
Colorado	26,925	4,009	5,663	17,253
Idaho	4,769	0	1,535	3,234
Montana	9,465	2,144	3,505	3,816
Nevada	4,596	8	1,138	3,450
New Mexico	26,751	10,519	6,905	9,327
Utah	10,670	953	1,066	8,651
Wyoming	10,288	3,309	3,781	3,198
Pacific	**116,913**	**1,034**	**11,648**	**104,231**
Alaska	2,053	0	338	1,715
California	89,555	1,034	7,814	80,707
Hawaii	612	0	0	612
Oregon	11,044	0	1,511	9,533
Washington	13,649	0	1,985	11,664

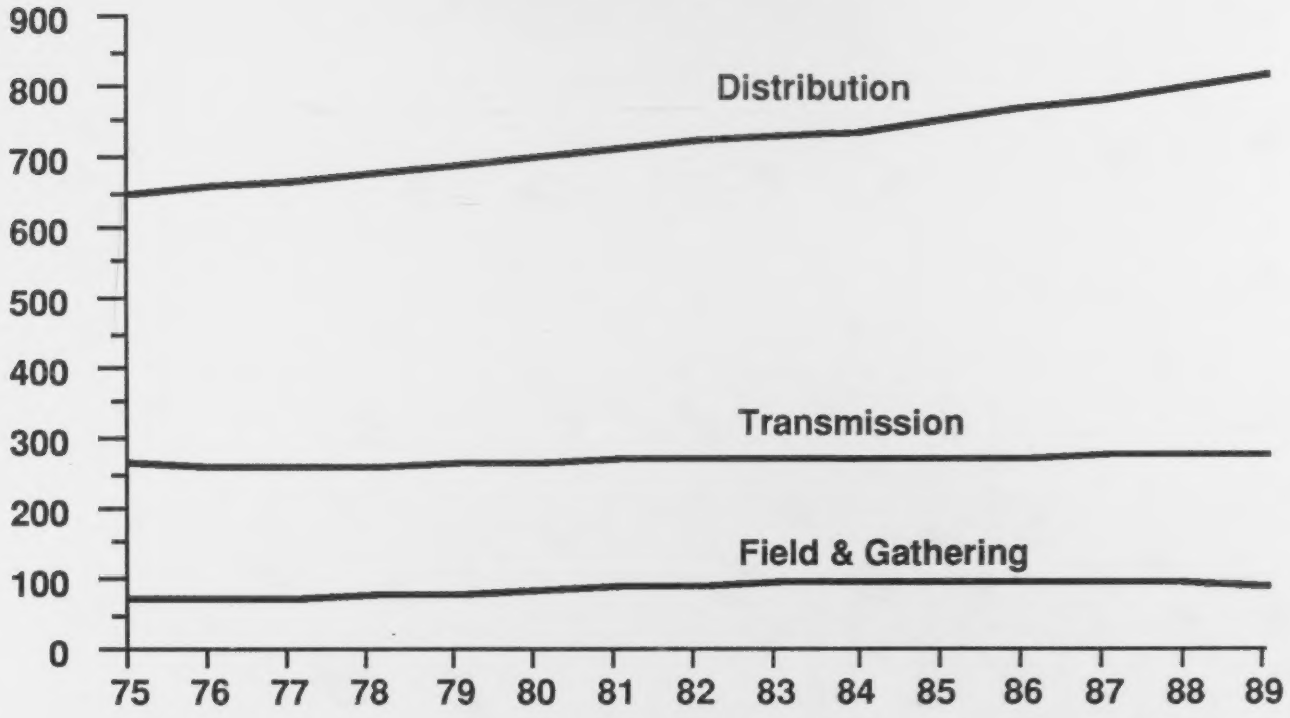
a. Excludes 460,809 miles of service pipe. Data not adjusted to common diameter equivalent. Mileage shown as of end of year.

b. Includes 6,229 miles of underground storage pipe.

CHART 5-1

GAS UTILITY INDUSTRY MILES OF PIPELINE AND MAIN

(THOUSANDS OF MILES)



REFERENCE: TABLE 5-1

TABLE 5-4

GAS UTILITY INDUSTRY MILES OF PIPELINE AND MAIN INSTALLED DURING 1989, BY STATE AND BY TYPE OF PIPE[a]

Division and State	Total[b]	Field and Gathering	Transmission Pipeline	Distribution Main			
		Steel	Steel[c]	Total	Steel	Plastic[d]	Other
United States	**21,698**	**272**	**1,742**	**19,684**	**5,159**	**14,441**	**84**
New England	**594**	**0**	**17**	**577**	**108**	**442**	**27**
Connecticut	121	0	0	121	31	76	14
Maine	10	0	0	10	0	10	0
Massachusetts	354	0	6	348	56	283	9
New Hampshire	30	0	10	20	3	17	0
Rhode Island	57	0	0	57	18	39	0
Vermont	22	0	1	21	0	17	4
Middle Atlantic	**2,604**	**8**	**233**	**2,363**	**512**	**1,850**	**1**
New Jersey	792	0	20	772	160	612	0
New York	843	2	48	793	64	729	0
Pennsylvania	969	6	165	798	288	509	1
East North Central	**4,221**	**6**	**342**	**3,873**	**1,385**	**2,488**	**0**
Illinois	1,095	0	30	1,065	747	318	0
Indiana	854	1	180	673	33	640	0
Michigan	723	0	15	708	34	674	0
Ohio	888	5	45	838	510	328	0
Wisconsin	661	0	72	589	61	528	0
West North Central	**1,950**	**18**	**188**	**1,744**	**349**	**1,381**	**14**
Iowa	262	0	19	243	1	242	0
Kansas	415	18	158	239	138	101	0
Minnesota	677	0	5	672	47	625	0
Missouri	395	0	1	394	112	268	14
Nebraska	131	0	5	126	40	86	0
North Dakota	31	0	0	31	0	31	0
South Dakota	39	0	0	39	11	28	0
South Atlantic	**3,395**	**1**	**50**	**3,344**	**1,387**	**1,951**	**6**
Delaware	100	0	10	90	0	90	0
District of Columbia	13	0	0	13	1	12	0
Florida	259	0	0	259	60	199	0
Georgia	1,121	0	7	1,114	1,029	85	0
Maryland	166	0	5	161	30	131	0
North Carolina	626	0	6	620	114	506	0
South Carolina	457	0	4	453	78	375	0
Virginia	470	0	12	458	69	383	6
West Virginia	183	1	6	176	6	170	0
East South Central	**2,292**	**3**	**158**	**2,131**	**866**	**1,229**	**36**
Alabama	503	0	58	445	152	257	36
Kentucky	300	3	29	268	161	107	0
Mississippi	315	0	67	248	48	200	0
Tennessee	1,174	0	4	1,170	505	665	0
West South Central	**1,864**	**126**	**455**	**1,283**	**98**	**1,185**	**0**
Arkansas	140	5	95	40	0	40	0
Louisiana	208	13	118	77	25	52	0
Oklahoma	215	2	50	163	3	160	0
Texas	1,301	106	192	1,003	70	933	0
Mountain	**2,110**	**110**	**147**	**1,853**	**179**	**1,674**	**0**
Arizona	514	0	3	511	18	493	0
Colorado	412	33	26	353	33	320	0
Idaho	65	0	10	55	2	53	0
Montana	185	10	24	151	1	150	0
Nevada	123	0	16	107	13	94	0
New Mexico	187	65	8	114	0	114	0
Utah	489	0	0	489	54	435	0
Wyoming	135	2	60	73	58	15	0
Pacific	**2,668**	**0**	**152**	**2,516**	**275**	**2,241**	**0**
Alaska	65	0	1	64	0	64	0
California	1,871	0	77	1,794	175	1,619	0
Hawaii	4	0	0	4	0	4	0
Oregon	317	0	74	243	43	200	0
Washington	411	0	0	411	57	354	0

a. Excludes service pipe. Data not adjusted to common diameter equivalent.
b. Does not include 93 miles of plastic and other pipe classified as field and gathering and transmission pipe.
c. Includes 30 miles of underground storage pipe.
d. Includes fiberglass.

TABLE 5–5
GAS UTILITY INDUSTRY REQUIREMENTS OF STEEL PIPE FOR NEW CONSTRUCTION AND MAINTENANCE AND REPAIR BY SIZE OF PIPE, 1989

(Miles)

Size of Pipe	Total	New Construction	Maintenance Repair
Normal Pipe Size—Inches			
¾ and less	774.0	655.2	118.8
1	190.0	149.2	40.8
1¼	307.5	277.2	30.3
1½	90.6	85.0	5.6
Outside Diameter—Inches			
2⅜	2,356.3	1,883.8	472.5
3½	168.1	156.3	11.8
4½	1,305.5	1,116.6	188.9
6⅝	1,110.6	954.8	155.8
8¾	676.6	596.8	79.8
10¾	171.9	135.7	36.2
12¾	300.0	246.0	54.0
14	8.7	7.7	1.0
16	303.7	284.3	19.4
18	18.5	7.8	10.7
20	71.6	40.8	30.8
22	1.7	1.7	0.0
24	58.5	53.8	4.7
26	4.5	1.1	3.4
30	97.1	88.2	8.9
34	0.0	0.0	0.0
36	402.3	402.3	0.0
42	0.8	0.8	0.8
Other Sizes	3.8	0.0	3.8
Total	**8,422.3**	**7,145.1**	**1,277.2**

TABLE 5–6
GAS UTILITY INDUSTRY INSTALLED COMPRESSOR HORSEPOWER, 1967–1989

(Thousands)

Year	Total	Transmission
1967	10,746	8,596
1968	11,438	9,146
1969	12,742	9,375
1970	13,150	9,692
1971	14,142	10,763
1972	14,506	10,976
1973	14,858	11,272
1974	15,181	11,883[a]
1975	15,413	12,069
1976	15,472	12,046
1977	15,553	12,105
1978	15,824	12,255
1979	16,030	12,437
1980	16,375	13,091
1981	16,601	13,270
1982	16,965	13,460
1983	16,900	13,426
1984	16,880	13,368
1985	16,567	13,131
1986	16,447	13,167
1987	16,356	13,650
1988[R]	16,814	14,104
1989	16,694	13,994

a. Not comparable to previous years due to reclassification.
R-Revised.

TABLE 5–7
SELECTED STATISTICS FOR MAJOR TRANSMISSION COMPANIES, 1989

Name of Transmission System	No. of Transmission Compressor Stations	Total Miles of Transmission Pipeline	Peak Day Sendout (MMCF)	Operating Revenues ($000,000)
Algonquin Gas Transmission Co.	5	985	1,113	$ 547.8
ANR Pipeline Co.	46	9,521	2,079	1,220.4
Colorado Interstate Gas Co.	27	3,024	959	431.6
Columbia Gas Transmission Co.	109	10,898	6,500	1,813.9
Columbia Gulf Transmission Co.	13	4,278	2,015	144.8
Consolidated Gas Transmission Corp.	44	3,750	3,753	1,311.5
East Tennessee Natural Gas Co.	15	1,094	495	264.2
El Paso Natural Gas Co.	86	10,722	678	1,100.4
Enron-Northern Natural	60	16,458	3,697	1,278.2
Florida Gas Transmission Co.	20	4,426	945	715.6
Midwestern Gas Transmission Co.	15	353	679	281.0
Mississippi River Transmission Co.	15	2,018	984	459.7
Natural Gas Pipeline Co. of America	52	10,717	a	1,715.3
Pacific Gas Transmission Co.	13	799	1,164	863.9
Panhandle Eastern Pipeline Co.	66	6,604	1,231	533.7
South Georgia Natural Gas Co.	2	767	a	29.7
Southern Natural Gas Co.	47	7,610	1,841	1,119.1
Tenneco, Inc.	67	14,094	7,929	1,373.5
Texas Eastern Transmission Co.	71	9,837	5,037	1,975.8
Texas Gas Transmission Corp.	27	5,869	3,118	645.7
Transcontinental Gas Pipeline Corp.	40	10,501	7,026	1,053.1
Transwestern Pipeline Co.	133	4,463	1,009	490.6
Trunkline Gas Co.	21	4,077	673	582.4
United Gas Pipeline Co.	33	7,367	4,774	596.3
Williams Natural Gas Co.	38	5,853	a	448.3

a. Not available.

Source: Federal Energy Regulatory Commission, FERC Form No. 2: Annual Report of Natural Gas Companies (Class A and Class B), 1989.

SECTION 6
SALES—QUANTITIES

	1989	% Change 89/88
Gas Utility Industry		
(Trillions of Btu)		
Total Sales	10,551.1	− 1.4
Residential	4,798.0	+ 2.2
Commercial	2,322.8	+ 0.7
Industrial	3,241.9	− 8.5
Industrial Only	1,961.7	−11.2
Electric Generation	1,280.2	− 4.2
Other	188.4	+17.6
Resale	5,014.7	−18.9

NOTE: Part of the decline in Gas Utility Sales are due to the continued increase of activity in spot market sales and the resulting transportation of gas to end-users. For volumes of gas transported to end-users (and therefore not sold by gas utilities) see Table 3-15.

SALES—QUANTITIES

TABLE 6-1
GAS UTILITY INDUSTRY SALES, BY CLASS OF SERVICE
1967-1989

(Trillions of Btu)

Year	Total	Residential	Commercial	Industrial[a]	Other[a]
1967	13,488.3	4,365.3	1,577.6	7,014.3	531.1
1968	14,472.4	4,552.7	1,704.9	7,595.1	619.7
1969	15,391.6	4,820.4	1,878.1	8,135.8	557.3
1970	16,043.5	4,923.7	2,006.6	8,439.2	674.0
1971	16,685.7	5,040.1	2,155.5	8,645.5	844.7
1972	17,082.1	5,141.8	2,275.7	8,775.7	888.8
1973	16,479.9	4,993.6	2,280.8	8,370.8	834.7
1974	16,000.3	4,864.8	2,293.4	8,153.2	689.0
1975	14,862.9	4,991.0	2,386.8	6,837.1	648.0
1976	14,813.5	5,014.2	2,422.6	7,192.0	184.6
1977	14,340.9	4,946.3	2,409.4	6,796.4	188.9
1978	14,748.4	5,106.7	2,499.5	6,931.5	210.7
1979	15,440.3	5,083.1	2,485.8	7,641.4	230.0
1980	15,413.2	4,826.1	2,453.4	7,965.9	167.7
1981	15,374.8	4,609.7	2,375.4	8,239.3	150.4
1982	14,182.7	4,769.8	2,471.3	6,794.3	147.3
1983	12,857.5	4,449.6	2,298.2	5,969.4	140.2
1984	13,161.7	4,628.3	2,396.0	5,991.0	146.4
1985	12,615.2	4,513.0	2,338.0	5,634.7	129.5
1986	11,125.1	4,380.8	2,238.9	4,338.2	167.2
1987	10,543.4	4,385.0	2,155.9	3,847.9	154.6
1988R	10,705.3	4,695.0	2,306.0	3,544.1	160.2
1989	10,551.1	4,798.0	2,322.8	3,241.9	188.4

[a] Prior to 1976, "Other" electric generation (see Table 6-13) is included in the "Other" class of service. For 1976 and beyond all electric generation is included in the Industrial category.

R–Revised.

TABLE 6-2
GAS UTILITY INDUSTRY SALES, BY CLASS OF SERVICE AND TYPE OF COMPANY
1983-1989[a]

(Trillions of Btu)

	1983	1984	1985	1986	1987	1988[R]	1989
Distribution							
Total	**2,925**	**3,078**	**3,803**	**3,439**	**3,251**	**3,278**	**3,531**
Residential	1,282	1,358	1,696	1,632	1,621	1,748	1,826
Commercial	727	780	948	906	871	890	887
Industrial	897	919	1,131	874	732	614	793
Other	20	21	28	27	27	26	25
Transmission							
Total	**1,826**	**1,711**	**1,708**	**1,496**	**1,408**	**1,264**	**1,098**
Residential	1	1	1	1	1	2	2
Commercial	3	4	3	5	3	12	6
Industrial	1,806	1,687	1,689	1,437	1,375	1,220	1,086
Other	17	20	15	53	29	30	4
Integrated							
Total	**4,203**	**4,290**	**2,922**	**2,396**	**2,209**	**2,273**	**2,017**
Residential	1,560	1,626	1,086	1,025	1,052	1,103	1,064
Commercial	739	782	522	469	454	494	485
Industrial	1,864	1,841	1,294	873	665	631	369
Other	40	41	20	29	38	45	99
Combination							
Total	**3,268**	**3,419**	**3,578**	**3,234**	**3,102**	**3,285**	**3,298**
Residential	1,335	1,358	1,464	1,458	1,445	1,563	1,624
Commercial	703	690	728	724	690	769	802
Industrial	1,192	1,331	1,339	1,009	925	912	829
Other	39	39	47	43	42	41	43
Municipals							
Total	**635**	**664**	**605**	**561**	**573**	**605**	**607**
Residential	271	286	266	264	265	280	282
Commercial	126	141	137	136	138	140	143
Industrial	212	213	182	145	152	168	165
Other	25	25	20	16	18	17	17

a. All electric generation is included in the Industrial category.
R–Revised.
Note: This table depicts total sales as shown on Table 6-1, by company type. Also, data by company type not directly comparable from year to year due to acquisitions and mergers. See page ix.

TABLE 6-3
GAS UTILITY INDUSTRY SALES, BY QUARTER AND CLASS OF SERVICE
1975-1989

(Trillions of Btu)

Year and Quarter	Total	Residential	Commercial	Industrial[a]	Other[a]
1975					
First	4,931.5	2,192.8	970.4	1,598.7	169.6
Second	3,520.9	1,137.7	536.3	1,715.9	131.0
Third	2,794.9	474.9	301.2	1,842.2	176.6
Fourth	3,615.6	1,185.6	579.0	1,680.2	170.8
1980					
First	5,434.3	2,218.9	1,031.1	2,121.8	62.5
Second	3,258.5	914.7	464.5	1,845.7	33.6
Third	2,753.3	405.3	300.1	2,021.5	26.4
Fourth	3,967.1	1,287.3	657.7	1,974.9	47.2
1981					
First	5,312.2	2,171.2	1,007.5	2,075.9	57.6
Second	3,384.9	797.4	430.3	2,127.2	30.0
Third	2,792.9	399.5	293.6	2,076.9	22.9
Fourth	3,884.8	1,241.6	644.0	1,959.3	39.9
1982					
First	5,350.7	2,318.2	1,086.6	1,888.2	57.7
Second	3,020.3	880.9	465.1	1,645.6	28.7
Third	2,416.1	404.4	297.2	1,692.4	22.1
Fourth	3,395.6	1,166.3	622.4	1,568.1	38.8
1983					
First	4,439.2	1,917.5	921.9	1,547.0	52.8
Second	2,835.9	935.1	477.3	1,393.3	30.2
Third	2,220.5	382.2	277.4	1,540.6	20.3
Fourth	3,361.9	1,214.9	621.6	1,488.5	36.9
1984					
First	4,918.2	2,199.7	1,050.1	1,608.3	60.1
Second	2,821.1	882.5	464.2	1,446.0	28.4
Third	2,182.9	383.7	276.5	1,504.2	18.5
Fourth	3,239.5	1,162.4	605.2	1,432.5	39.4
1985					
First	4,761.7	2,161.7	1,030.7	1,515.3	54.0
Second	2,441.2	740.5	399.9	1,277.0	23.8
Third	2,081.9	381.9	269.2	1,413.9	16.9
Fourth	3,330.4	1,228.9	638.2	1,428.5	34.8
1986					
First	4,306.9	2,038.9	973.3	1,240.9	53.8
Second	2,203.9	729.9	384.5	1,050.5	39.0
Third	1,714.2	384.1	260.0	1,041.2	28.9
Fourth	2,900.1	1,227.9	621.1	1,005.6	45.5
1987					
First	3,971.2	2,010.9	919.1	986.8	54.4
Second	2,076.8	749.8	380.3	918.0	28.7
Third	1,636.6	377.2	249.9	983.0	26.5
Fourth	2,858.8	1,247.1	606.6	960.1	45.0
1988R					
First	4,273.9	2,226.1	1,016.0	968.8	63.0
Second	1,950.2	774.6	398.7	749.0	27.9
Third	1,676.2	374.7	256.4	1,026.6	18.5
Fourth	2,805.0	1,319.6	634.9	799.7	50.8
1989					
First	4,043.0	2,141.6	962.2	881.1	58.1
Second	1,930.7	793.1	412.1	690.3	35.2
Third	1,498.5	392.4	257.3	814.1	34.7
Fourth	3,078.9	1,471.0	691.1	856.5	60.3

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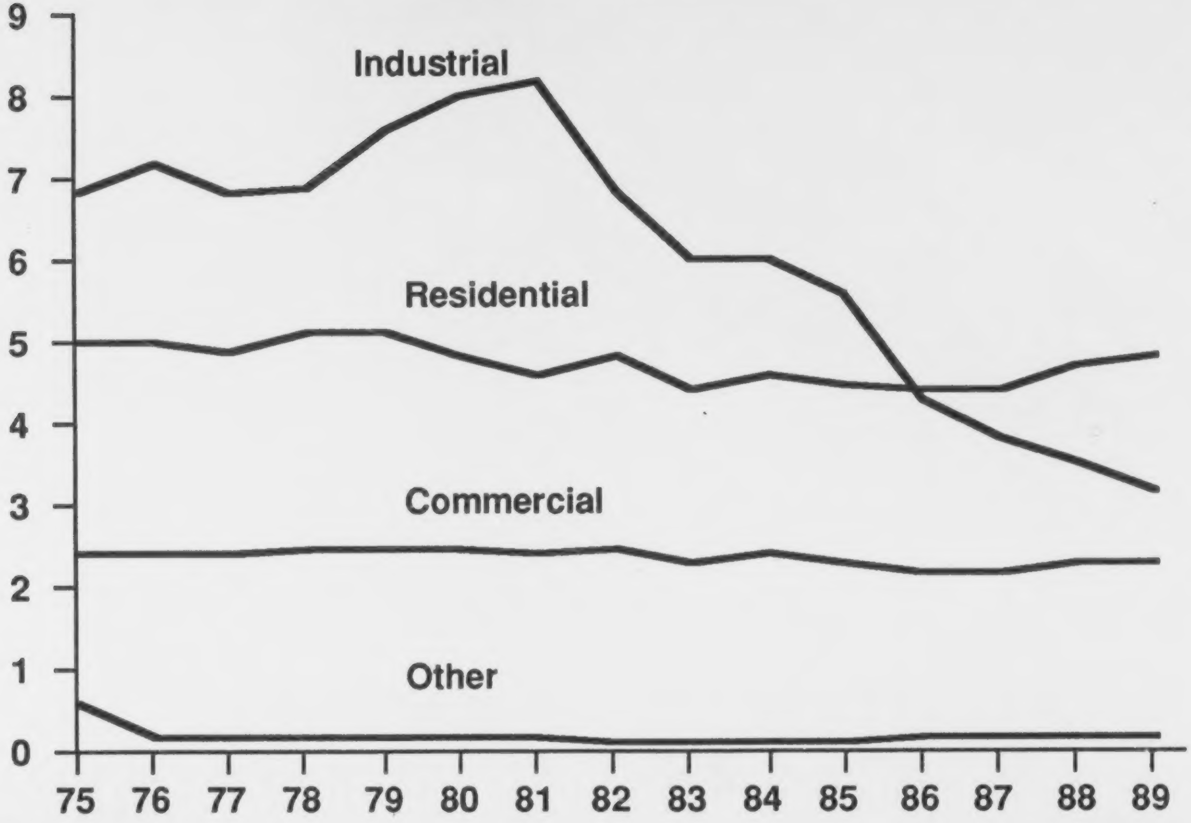
a. Prior to 1976, "Other" electric generation (see Table 6-13) is included in the "Other" class of service. For 1976 and beyond all electric generation is included in the Industrial category.

R–Revised.

CHART 6-1

GAS UTILITY SALES BY CLASS OF SERVICE
(QUADRILLIONS OF BTU)

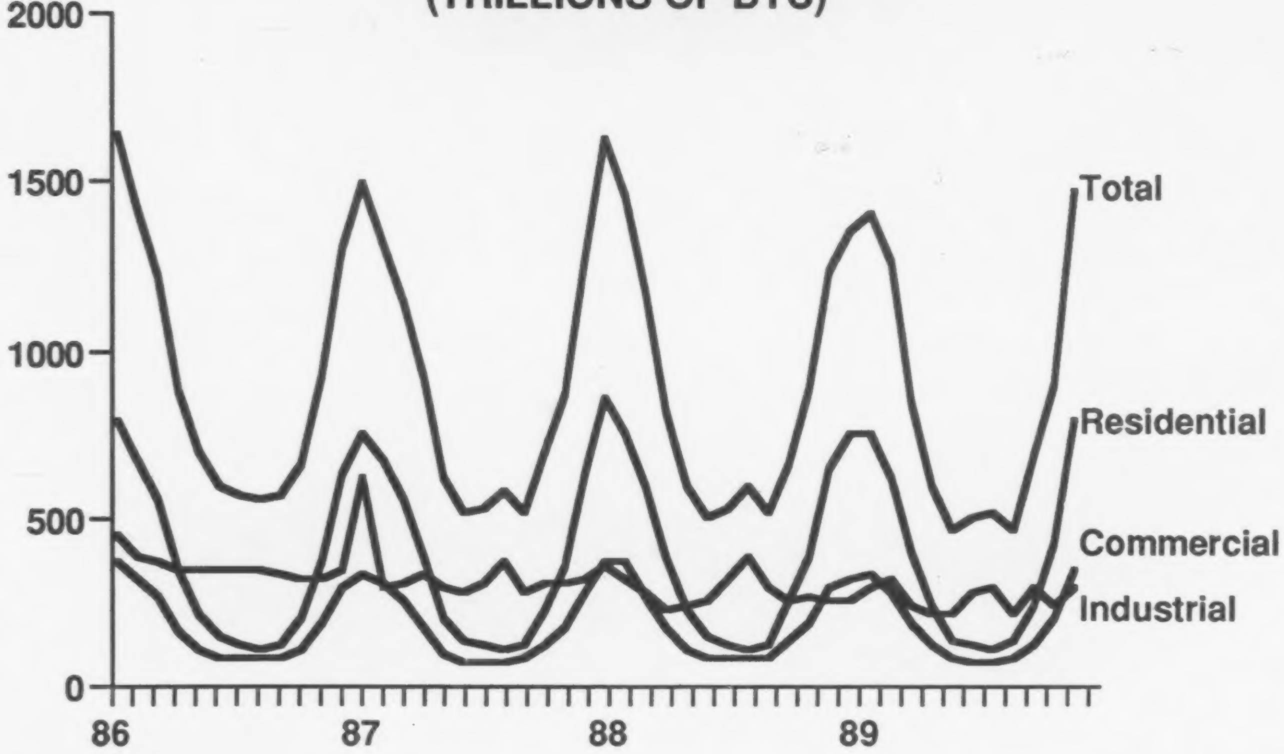


REFERENCE: TABLE 6-1

CHART 6-2

UTILITY SALES OF NATURAL GAS TO CONSUMERS BY MONTH, 1986 - 1989

(TRILLIONS OF BTU)



REFERENCE: TABLE 6-4

TABLE 6-4
GAS UTILITY INDUSTRY TOTAL SALES, BY MONTH, 1970-1989

(Trillions of Btu)

Year	January	February	March	April	May	June	July	August	September	October	November	December	Total
1970	1,865.8	1,733.0	1,663.0	1,527.7	1,225.7	1,054.3	1,013.5	1,020.2	1,007.5	1,081.1	1,283.7	1,566.4	16,041.9
1971	1,886.8	1,873.5	1,769.5	1,559.1	1,312.2	1,145.2	1,053.3	1,037.4	1,023.7	1,100.9	1,305.7	1,618.4	16,685.7
1972	1,833.1	1,908.1	1,758.3	1,542.6	1,292.5	1,176.1	1,056.1	1,125.9	1,094.5	1,120.0	1,378.7	1,796.2	17,082.1
1973	1,909.4	1,752.8	1,645.3	1,500.1	1,332.1	1,143.8	1,104.8	1,069.0	1,063.1	1,136.5	1,306.7	1,516.3	16,479.9
1974	1,847.6	1,707.2	1,630.7	1,493.6	1,251.6	1,119.9	1,050.8	1,034.9	992.3	1,115.2	1,219.8	1,536.7	16,000.3
1975	1,709.5	1,633.6	1,588.4	1,455.3	1,120.8	944.8	924.7	934.8	935.4	1,009.2	1,102.8	1,503.6	14,862.9
1976	1,797.5	1,644.6	1,451.0	1,252.2	1,099.8	965.6	913.1	900.8	899.1	996.4	1,278.3	1,614.7	14,813.5
1977	1,901.9	1,682.7	1,425.7	1,168.4	974.8	904.5	875.8	866.5	860.7	976.7	1,153.5	1,549.8	14,340.9
1978	1,808.7	1,834.1	1,647.5	1,237.7	1,061.4	921.4	895.1	878.8	839.6	947.7	1,151.1	1,525.5	14,748.4
1979	1,925.1	1,923.8	1,630.5	1,356.3	1,074.6	934.9	903.7	920.9	891.3	1,038.9	1,253.4	1,587.0	15,440.4
1980	1,834.6	1,871.4	1,728.3	1,315.2	1,024.3	919.0	928.2	918.9	906.2	1,024.5	1,287.0	1,655.6	15,413.2
1981	1,957.1	1,759.8	1,595.3	1,274.3	1,107.4	1,003.2	957.9	933.2	901.8	1,044.8	1,235.1	1,604.9	15,374.8
1982	1,964.4	1,831.3	1,555.0	1,288.9	911.8	819.6	816.7	823.6	775.8	864.7	1,117.5	1,413.4	14,182.7
1983	1,619.9	1,513.6	1,305.7	1,189.1	906.1	740.7	728.5	762.7	729.3	809.6	1,029.7	1,522.6	12,857.5
1984	1,907.9	1,532.8	1,477.5	1,172.3	912.8	736.0	739.9	736.2	706.8	812.5	1,054.5	1,372.5	13,161.7
1985	1,705.5	1,729.3	1,326.9	1,013.5	736.4	691.3	699.9	716.0	666.0	784.5	1,001.6	1,544.3	12,615.2
1986	1,649.9	1,428.7	1,228.3	892.5	709.4	602.0	574.2	568.4	571.6	663.4	926.2	1,310.5	11,125.1
1987	1,499.2	1,316.5	1,155.5	926.0	630.5	520.3	531.6	586.2	518.8	704.2	878.4	1,276.2	10,543.4
1988R	1,633.2	1,462.6	1,178.1	830.0	606.5	513.7	543.4	604.8	528.0	671.3	889.7	1,244.0	10,705.3
1989	1,361.0	1,416.3	1,265.7	851.3	604.8	474.6	507.3	519.8	471.4	694.9	901.3	1,482.7	10,551.1

R–Revised.

TABLE 6-5
GAS UTILITY INDUSTRY SALES, BY STATE, 1975-1989[a]

(Trillions of Btu)

Division and State	1975	1980	1985	1986	1987	1988R	1989
United States	**14,862.9**	**15,413.2**	**12,615.2**	**11,125.1**	**10,543.4**	**10,705.3**	**10,551.1**
New England	**243.5**	**298.2**	**348.5**	**315.1**	**369.9**	**358.8**	**400.1**
Connecticut	61.0	73.4	78.6	79.1	86.8	87.9	89.0
Maine	2.0	2.2	2.6	2.5	2.7	3.2	3.7
Massachusetts	145.9	182.5	220.9	190.0	230.6	217.6	255.7
New Hampshire	7.8	9.5	10.6	10.8	11.9	13.0	15.4
Rhode Island	23.4	26.4	30.6	27.5	32.4	31.2	29.8
Vermont	3.4	4.1	5.2	5.2	5.4	5.8	6.5
Middle Atlantic	**1,495.1**	**1,658.2**	**1,499.9**	**1,414.5**	**1,392.6**	**1,431.0**	**1,422.2**
New Jersey	257.9	322.7	334.8	329.3	351.9	364.5	381.7
New York	581.9	600.8	639.1	588.6	568.1	575.5	574.1
Pennsylvania	655.4	734.7	526.0	496.6	472.6	491.0	466.4
East North Central	**3,749.5**	**3,658.1**	**2,897.2**	**2,614.6**	**2,164.3**	**2,314.7**	**2,327.9**
Illinois	1,112.4	1,100.3	900.9	870.7	696.0	727.8	708.6
Indiana	458.8	475.9	399.0	336.6	267.0	276.5	277.8
Michigan	885.8	850.0	667.6	571.2	476.0	518.7	536.0
Ohio	929.8	888.0	624.7	577.3	521.2	561.0	563.0
Wisconsin	362.7	343.9	305.0	258.8	204.1	230.7	242.5
West North Central	**1,592.4**	**1,412.3**	**1,144.0**	**1,034.2**	**896.2**	**943.8**	**914.2**
Iowa	298.8	255.8	216.9	199.3	160.1	167.5	168.0
Kansas	410.4	364.6	248.7	210.8	168.5	162.4	141.2
Minnesota	295.0	267.1	250.8	234.8	216.3	237.6	243.6
Missouri	344.5	326.8	256.2	242.2	222.4	230.6	219.6
Nebraska	187.2	152.5	124.0	103.3	91.2	102.2	98.4
North Dakota	24.7	21.6	22.6	20.8	18.2	20.9	20.4
South Dakota	31.8	23.9	24.8	23.0	19.6	22.5	23.0
South Atlantic	**1,106.1**	**1,255.7**	**1,095.0**	**1,072.0**	**1,101.5**	**1,071.6**	**1,083.9**
Delaware	19.3	22.7	22.6	22.2	21.3	22.0	22.1
District of Columbia	24.8	27.6	28.0	29.8	31.0	32.6	32.6
Florida	127.4	232.2	232.9	239.8	256.2	248.6	281.6
Georgia	312.5	299.7	270.5	237.3	231.9	222.6	202.4
Maryland	138.8	154.6	118.5	122.5	126.1	128.9	133.6
North Carolina	104.8	143.2	125.3	130.4	134.4	131.1	130.6
South Carolina	118.3	112.3	94.5	93.2	100.5	93.2	93.3
Virginia	116.0	134.8	124.3	124.7	123.7	127.9	123.6
West Virginia	144.3	128.6	78.4	72.1	76.4	64.7	64.1
East South Central	**752.8**	**808.0**	**625.3**	**523.3**	**477.5**	**508.6**	**487.3**
Alabama	227.9	224.6	179.2	155.3	129.1	138.6	118.4
Kentucky	180.0	175.9	141.7	119.7	111.5	121.2	118.2
Mississippi	141.3	191.5	140.9	103.3	83.8	83.2	87.5
Tennessee	203.5	216.1	163.5	145.0	153.1	165.6	163.2
West South Central	**2,973.6**	**3,534.9**	**2,330.4**	**2,042.1**	**1,950.7**	**1,893.1**	**1,730.0**
Arkansas	219.4	207.4	142.9	111.6	90.8	118.5	92.5
Louisiana	457.3	515.2	285.2	207.3	256.5	204.7	226.3
Oklahoma	417.9	472.3	263.4	157.7	151.7	171.1	203.7
Texas	1,878.9	2,340.0	1,638.9	1,565.5	1,451.7	1,398.8	1,207.5
Mountain	**928.6**	**841.9**	**655.4**	**507.4**	**487.7**	**495.6**	**526.6**
Arizona	144.4	136.4	119.4	71.3	72.6	70.4	113.6
Colorado	269.2	242.3	191.6	165.0	165.1	173.4	165.8
Idaho	51.2	45.4	33.0	20.9	21.5	17.3	17.3
Montana	79.8	54.1	44.0	37.3	34.7	39.0	42.3
Nevada	61.3	62.1	41.5	31.7	31.4	35.3	33.1
New Mexico	142.5	125.7	74.7	59.8	58.6	55.0	52.2
Utah	119.4	121.7	113.2	91.6	80.6	80.8	78.0
Wyoming	60.8	54.3	38.0	29.8	23.3	24.4	24.3
Pacific	**2,021.3**	**1,945.9**	**2,019.5**	**1,601.9**	**1,703.0**	**1,688.3**	**1,658.9**
Alaska	30.7	32.3	42.6	42.3	39.9	40.3	40.0
California	1,735.6	1,700.0	1,762.9	1,375.7	1,465.8	1,466.8	1,426.6
Hawaii	3.6	3.5	3.1	3.1	3.2	3.3	3.4
Oregon	86.8	76.4	77.2	63.5	68.7	54.1	53.1
Washington	164.6	133.8	133.7	117.3	125.3	123.8	135.8

a. Excludes sales for resale.
R–Revised.

SALES—QUANTITIES

TABLE 6-6
GAS UTILITY INDUSTRY SALES OF GAS FOR RESALE, BY STATE
1975-1989

(Trillions of Btu)

Division and State	1975	1980	1985	1986	1987	1988R	1989
United States	**14,504.5**	**15,705.1**	**10,408.1**	**7,611.2**	**6,497.2**	**6,185.1**	**5,014.7**
New England	**271.5**	**299.8**	**291.8**	**262.9**	**313.1**	**232.4**	**192.3**
Connecticut	82.7	76.4	67.2	62.3	68.6	59.4	49.5
Maine	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Massachusetts	160.0	188.8	188.1	164.4	169.8	143.0	116.0
New Hampshire	5.8	6.8	7.6	7.5	46.4	5.3	4.3
Rhode Island	21.8	27.9	28.9	28.7	28.3	24.7	22.5
Vermont	1.3	0.0	0.0	0.0	0.0	0.0	0.0
Middle Atlantic	**1,901.6**	**2,334.0**	**1,671.4**	**1,305.9**	**1,233.6**	**1,117.9**	**849.8**
New Jersey	370.2	510.6	404.7	356.0	380.7	332.2	255.1
New York	572.2	707.5	566.3	385.6	362.7	283.6	233.7
Pennsylvania	959.2	1,115.9	700.4	564.3	490.2	502.1	361.0
East North Central	**4,542.8**	**4,442.0**	**2,945.1**	**2,054.0**	**1,308.6**	**1,535.5**	**1,221.4**
Illinois	1,537.1	1,613.3	1,147.1	788.9	423.3	573.8	513.8
Indiana	406.8	461.4	325.8	336.6	245.0	213.2	206.9
Michigan	759.4	615.8	329.7	141.0	79.0	153.7	145.4
Ohio	1,356.1	1,315.3	774.8	522.4	409.8	461.8	222.9
Wisconsin	483.4	436.1	367.7	265.1	151.5	133.0	132.4
West North Central	**1,144.5**	**1,043.9**	**903.9**	**841.2**	**675.4**	**620.3**	**535.6**
Iowa	259.7	208.9	160.8	147.0	89.4	95.0	76.4
Kansas	169.7	149.4	127.6	110.6	95.9	80.8	71.9
Minnesota	239.0	239.1	225.6	277.4	184.1	152.0	126.3
Missouri	338.0	337.8	275.0	249.8	211.9	199.2	179.3
Nebraska	111.7	86.4	73.1	68.0	61.8	58.6	52.2
North Dakota	5.5	4.9	17.4	16.4	13.8	15.4	12.0
South Dakota	20.8	17.5	24.4	22.0	18.5	19.3	17.5
South Atlantic	**1,372.5**	**1,470.3**	**893.7**	**694.5**	**563.5**	**524.1**	**484.3**
Delaware	1.2	1.2	1.8	1.6	1.1	1.2	8.7
District of Columbia	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Florida	82.7	94.7	91.8	85.9	97.3	93.9	96.4
Georgia	315.5	308.7	257.7	179.0	128.6	116.5	96.1
Maryland	151.0	184.5	110.1	98.8	75.0	62.5	75.1
North Carolina	118.5	165.8	124.7	89.0	101.4	66.3	28.0
South Carolina	127.6	135.2	83.9	62.8	57.3	49.1	48.7
Virginia	181.9	209.1	155.4	140.6	72.6	68.8	62.5
West Virginia	394.1	371.2	68.3	36.8	30.2	65.8	68.8
East South Central	**1,178.0**	**1,256.5**	**745.6**	**566.5**	**450.5**	**469.1**	**309.7**
Alabama	219.3	219.8	168.0	104.3	67.0	69.8	56.2
Kentucky	238.4	237.3	157.8	107.2	94.0	103.4	67.8
Mississippi	263.1	289.1	127.1	73.4	51.1	39.6	35.5
Tennessee	457.3	510.3	292 7	281.6	238.4	256.3	150.2
West South Central	**1,215.9**	**2,007.4**	**818.9**	**548.4**	**631.3**	**622.0**	**498.6**
Arkansas	16.1	16.0	12.9	11.9	29.1	12.7	9.4
Louisiana	569.2	661.9	268.5	138.1	125.5	115.0	142.5
Oklahoma	148.6	206.2	61.4	29.6	29.4	19.2	28.9
Texas	482.1	1,123.3	476.1	368.8	447.3	475.1	317.8
Mountain	**1,901.8**	**1,871.0**	**1,490.5**	**836.8**	**683.8**	**516.6**	**416.6**
Arizona	1,341.0	1,370.5	1,062.6	512.6	377.7	270.2	175.5
Colorado	279.6	261.8	194.8	161.1	155.5	126.7	127.9
Idaho	84.2	66.7	50.2	32.9	35.9	13.2	3.8
Montana	7.7	7.6	17.6	14.4	13.1	13.9	13.1
Nevada	9.5	9.9	10.3	9.3	10.3	10.6	10.5
New Mexico	71.8	58.6	37.8	12.8	12.1	10.1	18.9
Utah	7.4	8.4	75.8	66.8	59.5	56.3	54.6
Wyoming	100.6	87.5	41.4	26.9	19.7	15.6	12.3
Pacific	**975.9**	**980.1**	**647.2**	**501.0**	**637.4**	**547.2**	**506.4**
Alaska	0.0	27.4	0.0	0.0	0.0	0.0	0.0
California	346.5	436.5	145.0	121.6	145.6	96.1	80.2
Hawaii	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Oregon	470.2	388.3	372.9	290.4	411.9	394.6	381.5
Washington	159.1	127.8	129.3	89.0	79.9	56.5	44.7

R–Revised.

TABLE 6-7
GAS UTILITY INDUSTRY SALES, BY STATE AND CLASS OF SERVICE, 1989

(Trillions of Btu)

Division and State	Total	Class of Service: Residential	Commercial	Industrial	Electric Generation	Other	Average Btu Value
United States	**10,551.1**	**4,798.0**	**2,322.8**	**1,961.7**	**1,280.2**	**188.4**	**1,241.3**
New England	**400.1**	**178.1**	**106.5**	**62.1**	**49.9**	**3.5**	**1,033.4**
Connecticut	89.0	41.6	28.0	18.5	0.8	0.1	1,031.7
Maine	3.7	0.6	1.7	1.4	0.0	0.0	1,039.0
Massachusetts	255.7	108.1	62.1	33.7	48.8	3.0	1,036.7
New Hampshire	15.4	7.1	5.9	2.2	a	0.2	1,018.7
Rhode Island	29.8	18.4	7.3	3.8	0.2	a	1,026.9
Vermont	6.5	2.3	1.5	2.4	0.1	0.2	986.0
Middle Atlantic	**1,422.2**	**839.4**	**347.2**	**176.7**	**24.3**	**34.5**	**1,036.1**
New Jersey	381.7	195.7	117.1	51.3	17.3	0.2	1,051.3
New York	574.1	365.7	126.3	50.5	6.5	25.1	1,027.7
Pennsylvania	466.4	278.0	103.8	74.9	0.5	9.2	1,034.8
East North Central	**2,327.9**	**1,500.2**	**557.8**	**255.3**	**4.5**	**10.0**	**1,023.6**
Illinois	708.6	466.2	157.8	82.4	2.1	0.1	1,022.3
Indiana	277.8	157.9	68.5	49.5	0.3	1.5	1,002.0
Michigan	536.0	374.6	128.1	32.3	0.3	0.7	1,029.0
Ohio	563.0	373.1	137.2	44.9	0.8	7.0	1,037.4
Wisconsin	242.5	128.4	66.2	46.2	1.0	0.7	1,008.5
West North Central	**914.2**	**471.7**	**285.9**	**146.5**	**5.6**	**4.6**	**1,003.3**
Iowa	168.0	79.9	46.4	39.3	1.3	1.2	1,010.6
Kansas	141.2	76.0	47.8	15.7	1.3	0.5	991.7
Minnesota	243.6	118.8	71.3	51.6	1.1	0.8	1,001.5
Missouri	219.6	129.2	70.2	17.8	0.4	1.9	1,009.9
Nebraska	98.4	46.0	33.4	17.4	1.4	0.2	983.6
North Dakota	20.4	10.3	9.4	0.7	a	a	1,047.5
South Dakota	23.0	11.5	7.4	4.0	0.1	0.0	1,018.9
South Atlantic	**1,083.9**	**358.5**	**247.1**	**282.9**	**192.2**	**3.2**	**1,030.4**
Delaware	22.1	7.8	4.3	9.5	0.4	a	1,034.7
District of Columbia	32.6	12.8	19.8	0.0	0.0	0.0	1,020.0
Florida	281.6	14.2	33.4	54.3	178.9	0.8	1,026.2
Georgia	202.4	99.2	47.8	54.2	0.8	0.4	1,026.1
Maryland	133.6	70.3	33.8	20.4	9.1	a	1,030.8
North Carolina	130.6	39.4	29.6	61.3	a	0.2	1,031.1
South Carolina	93.3	20.5	16.6	55.4	0.6	0.3	1,027.0
Virginia	123.6	55.1	46.1	21.1	0.0	1.4	1,031.8
West Virginia	64.1	39.2	15.7	6.7	2.4	0.1	1,067.0
East South Central	**487.3**	**189.8**	**115.3**	**164.1**	**5.0**	**13.1**	**1,027.4**
Alabama	118.4	46.9	25.4	45.5	0.2	0.5	1,027.4
Kentucky	118.2	66.7	29.5	17.0	0.0	5.0	1,015.5
Mississippi	87.5	26.6	14.2	38.0	4.8	4.0	1,025.9
Tennessee	163.2	49.6	46.2	63.6	a	3.6	1,037.2
West South Central	**1,730.0**	**401.1**	**215.7**	**507.8**	**498.7**	**106.8**	**1,035.6**
Arkansas	92.5	43.9	25.8	22.5	a	0.3	1,006.5
Louisiana	226.3	58.6	21.4	61.9	28.7	55.8	1,031.1
Oklahoma	203.7	73.4	34.2	94.1	1.1	0.8	1,027.5
Texas	1,207.5	225.2	134.3	329.3	468.9	49.9	1,039.8
Mountain	**526.6**	**254.7**	**162.2**	**61.7**	**38.1**	**10.0**	**1,014.9**
Arizona	113.6	27.7	24.6	26.1	33.9	1.3	1,028.8
Colorado	165.8	91.1	63.1	8.3	2.9	0.4	994.5
Idaho	17.3	8.8	6.7	1.8	0.0	0.0	1,024.5
Montana	42.3	20.4	13.0	7.6	a	1.3	1,024.5
Nevada	33.1	16.7	14.8	0.7	0.4	0.5	1,030.3
New Mexico	52.2	28.6	13.5	3.2	0.5	6.4	1,044.0
Utah	78.0	49.2	18.0	10.7	0.2	a	1,000.0
Wyoming	24.3	12.2	8.5	3.3	0.2	0.1	1,025.5
Pacific	**1,658.9**	**604.6**	**285.1**	**304.6**	**461.9**	**2.7**	**1,033.2**
Alaska	40.0	13.4	11.7	0.0	15.0	0.0	1,003.0
California	1,426.6	528.3	210.9	238.8	446.5	2.2	1,034.0
Hawaii	3.4	0.6	1.7	1.1	0.0	0.0	1,078.0
Oregon	53.1	23.1	19.9	10.0	a	0.0	1,034.9
Washington	135.8	39.2	40.9	54.7	0.4	0.5	1,032.1

a. Less than 0.05 trillion Btu.

Note: See explanation on page 67 about transportation volumes.

TABLE 6-8
GAS UTILITY INDUSTRY FIRM AND INTERRUPTIBLE GAS SALES BY STATE, 1989

(Trillions of Btu)

Division and State	Commercial			Industrial[a]		
	Total	Firm	Interruptible	Total	Firm	Interruptible
United States	**2,322.8**	**2,053.5**	**269.3**	**1,961.7**	**831.9**	**1,129.8**
New England	**106.5**	**95.2**	**11.3**	**62.1**	**29.4**	**32.7**
Connecticut	28.0	20.4	7.6	18.5	9.0	9.5
Maine	1.7	1.5	0.2	1.4	0.9	0.5
Massachusetts	62.1	59.6	2.5	33.7	16.0	17.7
New Hampshire	5.9	5.8	b	2.2	0.9	1.3
Rhode Island	7.3	6.4	0.9	3.8	2.5	1.3
Vermont	1.5	1.5	0.0	2.4	b	2.4
Middle Atlantic	**347.2**	**314.8**	**32.4**	**176.7**	**100.2**	**76.5**
New Jersey	117.1	94.2	22.9	51.3	22.9	28.4
New York	126.3	122.8	3.5	50.5	33.3	17.2
Pennsylvania	103.8	97.8	6.0	74.9	44.0	30.9
East North Central	**557.8**	**543.8**	**14.0**	**255.3**	**204.4**	**50.9**
Illinois	157.8	156.5	1.3	82.4	66.4	16.0
Indiana	68.5	65.1	3.4	49.5	33.9	15.6
Michigan	128.1	128.1	b	32.3	29.8	2.5
Ohio	137.2	136.5	0.7	44.9	39.7	5.2
Wisconsin	66.2	57.6	8.6	46.2	34.6	11.6
West North Central	**285.9**	**250.4**	**35.5**	**146.5**	**68.8**	**77.7**
Iowa	46.4	39.5	6.9	39.3	25.1	14.2
Kansas	47.8	42.7	5.1	15.7	6.8	8.9
Minnesota	71.3	59.2	12.1	51.6	16.0	35.6
Missouri	70.2	64.1	6.1	17.8	12.8	5.0
Nebraska	33.4	29.8	3.6	17.4	6.0	11.4
North Dakota	9.4	8.1	1.3	0.7	0.3	0.4
South Dakota	7.4	7.0	0.4	4.0	1.8	2.2
South Atlantic	**247.1**	**208.6**	**38.5**	**282.9**	**109.7**	**173.1**
Delaware	4.3	4.3	0.0	9.5	7.1	2.4
District of Columbia	19.8	10.7	9.1	0.0	0.0	0.0
Florida	33.4	30.8	2.6	54.3	5.5	48.8
Georgia	47.8	47.1	0.7	54.2	19.7	34.5
Maryland	33.8	23.8	10.0	20.4	15.3	5.1
North Carolina	29.6	27.0	2.6	61.3	28.3	33.0
South Carolina	16.6	13.0	3.6	55.4	20.8	34.6
Virginia	46.1	37.1	9.0	21.1	11.2	9.8
West Virginia	15.7	14.7	1.0	6.7	1.8	4.9
East South Central	**115.3**	**109.1**	**6.2**	**164.1**	**111.7**	**52.4**
Alabama	25.4	22.8	2.6	45.5	23.3	22.1
Kentucky	29.5	28.9	0.6	17.0	12.2	4.8
Mississippi	14.2	14.2	b	38.0	33.1	4.9
Tennessee	46.2	43.2	3.0	63.6	43.1	20.5
West South Central	**215.7**	**213.6**	**2.1**	**507.8**	**137.4**	**370.4**
Arkansas	25.8	25.8	b	22.5	8.1	14.4
Louisiana	21.4	21.3	0.1	61.9	38.7	23.2
Oklahoma	34.2	33.1	1.1	94.1	26.8	67.3
Texas	134.3	133.4	0.9	329.3	63.8	265.5
Mountain	**162.2**	**161.2**	**1.0**	**61.7**	**46.7**	**15.0**
Arizona	24.6	24.6	b	26.1	26.1	0.0
Colorado	63.1	62.7	0.4	8.3	5.8	2.5
Idaho	6.7	6.7	0.0	1.8	1.7	0.1
Montana	13.0	12.9	0.1	7.6	1.3	6.4
Nevada	14.8	14.8	0.0	0.7	0.7	0.0
New Mexico	13.5	13.1	0.4	3.2	3.0	0.1
Utah	18.0	18.0	0.0	10.7	6.8	3.9
Wyoming	8.5	8.4	0.1	3.3	1.3	2.0
Pacific	**285.1**	**156.8**	**128.3**	**304.6**	**23.6**	**281.1**
Alaska	11.7	11.7	0.0	0.0	0.0	0.0
California	210.9	96.2	114.7	238.8	3.1	235.7
Hawaii	1.7	1.3	0.4	1.1	1.1	0.0
Oregon	19.9	19.8	b	10.0	5.8	4.2
Washington	40.9	27.8	13.1	54.8	13.6	41.2

a. Does not include electric generation. See Table 6-13.

b. Less than 0.05 trillion Btu.

TABLE 6-9
GAS UTILITY INDUSTRY SALES BY TYPE OF INDUSTRY CLASSIFICATION, 1970-1987

(Trillions of Btu)

Industry Classification	1970	1975	1980	1985	1986	1987
Agriculture, forestry and fisheries	33.0	49.7	47.1	46.5	36.5	18.4
Petroleum and natural gas production	101.0	83.8	32.2	45.6	28.5	35.4
Other mining	59.8	49.3	55.6	27.7	19.9	5.8
Electric services[a]	2,588.6	1,685.2	2,520.5	2,327.1	1,769.0	1,908.4
Other transportation, communications, and public utilities	96.2	95.9	92.5	94.3	75.1	62.8
Hotels, rooming houses, camps	67.3	77.8	27.8	34.3	37.2	32.2
Laundries, cleaning and dyeing	21.5	24.3	22.0	28.5	30.7	24.8
Other services	175.1	236.7	309.5	372.5	355.5	277.1
Other non-manufacturing	198.6	187.5	151.8	288.7	316.2	270.9
Ordnance	35.4	b	b	b	b	b
Food and kindred products	330.5	338.9	320.2	252.5	196.8	125.4
Textile products, apparel, fabrics, etc.	72.5	54.6	64.3	57.4	58.1	57.9
Furniture, lumber, and other wood products	64.9	61.1	45.7	36.7	28.2	24.3
Paper and allied products	402.7	267.6	257.8	187.6	134.0	104.2
Carbon black	52.8	38.2	34.1	2.2	1.5	1.0
Chemicals and allied products (except carbon black)	880.7	886.5	603.8	35.6	355.8	173.5
Petroleum refining	639.6	514.5	372.0	118.3	62.5	28.7
Rubber and miscellaneous plastic products	47.8	45.1	50.7	42.2	32.3	24.9
Glass products	208.8	173.7	170.9	93.7	76.8	43.3
Cement	195.0	158.1	49.2	8.3	5.7	3.3
Clay products, pottery, etc.	145.3	110.0	86.4	58.0	47.6	28.8
Other stone products and miscellaneous	82.3	97.0	85.5	48.9	41.6	25.2
Primary iron and steel industries	669.0	555.5	546.3	265.9	172.3	78.2
Primary non-ferrous industries	232.9	275.9	194.4	124.5	84.2	50.4
Fabricated metal products, machinery equipment and supplies	289.8	276.8	233.1	195.7	171.9	111.9
Transportation equipment	170.8	140.2	84.4	82.9	63.4	42.8
Other manufacturing	100.0	122.1	121.0	141.0	148.2	65.9
Public administration	c	72.1	70.0	91.9	91.2	82.7
Unclassified[d]	1,434.9	3,495.4	4,349.3	2,858.4	2,619.4	2,845.9
Total Gas Utility Industry Commercial, Industrial and "Other" sales[a,e]	**9,396.8**	**10,173.5**	**10,998.1**	**8,466.9**	**7,059.7**	**6554.0**
Total Commercial, Industrial and "Other" sales of co.'s reporting this table	**8,022.9**	**8,786.0**	**7,851.5**	**5,926.7**	**4,886.7**	**3,571.0**
Transfers[a]	**283.6**	**301.6**	**411.1**	**364.5**	**315.3**	**395.2**

a. Includes the quantities of gas for electric generation detailed as "Transfers" which are not included in Total Commercial, Industrial, and "Other" sales of companies reporting this table or in Total Gas Utility Industry sales. Such quantities represent transfers by the gas department to the electric department of combination gas and electric companies.

b. Classification eliminated.

c. New classification in 1972.

d. Difference between total and classified volumes.

e. Includes Industrial and "Other" sales only prior to 1971.

Note: Prior to 1982 only large volume sales detailed by SIC. After 1987, data collection reformatted. See Table 6-10.

TABLE 6-12
GAS CONSUMED FOR ELECTRIC GENERATION,[a] BY STATE, 1975-1989

(Millions of Cubic Feet)

Division and State	1975	1980	1985	1986	1987	1988R	1989
United States	**3,146,874**	**3,681,595**	**3,044,083**	**2,602,370**	**2,844,051**	**2,635,613**	**2,767,766**
New England	**2,523**	**7,001**	**49,346**	**15,618**	**52,884**	**21,374**	**53,946**
Connecticut	344	0	1,559	740	7,350	1,260	3,291
Maine	0	0	0	0	0	0	0
Massachusetts	1,437	5,083	45,161	14,875	40,183	19,874	48,448
New Hampshire	177	0	67	0	15	55	23
Rhode Island	11	1,679	2,532	0	5,336	185	2,147
Vermont	555	239	95	3	0	0	37
Middle Atlantic	**23,436**	**206,769**	**235,563**	**171,181**	**250,458**	**202,208**	**240,800**
New Jersey	8,601	79,513	61,362	36,877	75,138	51,066	54,778
New York	13,613	124,391	172,631	133,580	173,328	148,495	182,000
Pennsylvania	1,213	2,865	1,570	724	1,993	2,649	4,022
East North Central	**118,394**	**65,883**	**19,141**	**20,487**	**18,288**	**27,901**	**32,853**
Illinois	34,176	19,165	5,881	6,067	3,172	5,706	6,942
Indiana	10,994	1,904	1,117	1,086	1,315	3,455	4,075
Michigan	47,151	26,368	10,126	10,945	10,754	15,027	18,782
Ohio	6,139	4,706	699	606	871	974	978
Wisconsin	19,935	13,740	1,317	1,783	2,176	2,739	2,076
West North Central	**264,825**	**143,387**	**27,333**	**21,066**	**28,241**	**33,459**	**29,444**
Iowa	46,929	6,835	2,100	1,365	3,265	5,459	2,402
Kansas	127,818	101,022	21,181	15,029	16,074	18,890	18,752
Minnesota	22,709	8,077	1,275	1,734	5,700	5,217	4,322
Missouri	26,320	15,329	1,466	1,182	1,379	1,623	1,242
Nebraska	37,659	11,850	1,284	1,713	1,743	2,046	2,593
North Dakota	157	15	2	2	3	2	1
South Dakota	3,232	259	26	41	77	223	132
South Atlantic	**199,105**	**191,409**	**177,934**	**182,994**	**199,769**	**168,894**	**223,474**
Delaware	1,697	6,999	7,266	1,796	7,847	2,824	8,412
District of Columbia	0	0	0	0	0	0	0
Florida	141,153	166,047	165,683	169,533	175,675	154,550	186,894
Georgia	40,282	3,666	885	5,803	826	1,569	685
Maryland	451	5,230	1,372	2,194	11,757	5,336	19,184
North Carolina	101	1,702	595	1,137	1,162	1,068	1,673
South Carolina	14,566	5,418	483	1,386	538	2,378	2,705
Virginia	496	2,285	1,528	847	1,724	1,096	3,796
West Virginia	358	62	122	298	239	73	124
East South Central	**37,774**	**99,461**	**55,779**	**49,104**	**42,930**	**36,512**	**47,182**
Alabama	5,994	1,382	1,078	1,054	1,474	2,574	1,707
Kentucky	272	1,902	1,121	437	336	452	328
Mississippi	31,507	95,073	53,579	47,613	41,119	33,261	45,129
Tennessee	0	1,104	0	0	0	225	18
West South Central	**2,042,085**	**2,243,820**	**1,694,726**	**1,600,352**	**1,516,669**	**1,493,530**	**1,454,751**
Arkansas	31,818	58,863	11,411	28,425	32,057	22,075	29,655
Louisiana	356,130	424,991	285,039	267,862	246,912	250,323	227,082
Oklahoma	300,848	329,940	200,686	197,239	187,895	177,222	178,021
Texas	1,353,290	1,430,026	1,197,590	1,106,826	1,049,804	1,043,910	1,019,993
Mountain	**164,636**	**175,032**	**83,716**	**62,810**	**60,855**	**66,203**	**110,801**
Arizona	17,693	49,699	41,731	30,607	26,665	25,328	50,807
Colorado	52,930	31,928	4,913	4,650	7,826	8,488	8,375
Idaho	18	46	24	5	3	0	0
Montana	1,059	4,182	468	407	478	286	336
Nevada	25,152	27,541	8,080	6,592	7,076	10,658	23,210
New Mexico	64,239	56,280	28,133	20,182	18,454	21,064	27,365
Utah	2,725	5,133	235	230	263	196	622
Wyoming	819	222	132	138	90	183	85
Pacific	**294,105**	**548,833**	**700,545**	**478,759**	**673,958**	**585,532**	**574,516**
Alaska	19,619	28,763	34,194	34,409	30,530	30,841	32,746
California	274,483	518,808	666,274	444,226	643,335	552,938	520,508
Hawaii	0	0	0	0	0	0	0
Oregon	3	321	0	0	0	0	12,942
Washington	0	941	77	124	93	1,753	8,320

a. Includes direct sales by producers to electric utilities as well as sales by the gas utility industry.

R–Revised.

Source: U.S. Department of Energy, Energy Information Administration, *Electric Power Monthly,* December 1989.

TABLE 6-13
GAS UTILITY INDUSTRY GAS USED FOR ELECTRIC GENERATION, 1967-1989[a]

(Trillions of Btu)

	Sales					
	Industrial[b]					
Year	Firm	Interruptible	Other	Total Sales	Transfers[c]	Total Sales and Transfers
1967	1,386.9		316.7	1,703.6	254.3	1,957.9
1968	1,489.6		381.3	1,870.9	270.9	2,141.8
1969	1,643.9		360.8	2,004.7	232.6	2,237.3
1970	1,877.5		427.5	2,305.0	283.6	2,588.6
1971	853.6	1,083.6	483.4	2,420.6	595.2	3,015.9
1972	956.5	858.4	553.3	2,368.4	549.5	2,917.9
1973	542.8	871.6	511.4	1,925.8	477.2	2,403.0
1974	497.2	812.5	387.9	1,697.6	419.8	2,117.4
1975	374.5	623.4	385.8	1,383.6	301.6	1,685.2
1976	478.1	889.5	d	1,367.6	250.9	1,618.5
1977	489.1	959.6	d	1,448.7	241.1	1,689.8
1978	544.2	854.0	d	1,398.2	187.9	1,586.1
1979	665.2	980.0	d	1,645.2	335.0	1,980.2
1980	971.9	1,137.7	d	2,109.6	411.1	2,520.7
1981	997.9	1,264.3	d	2,262.2	343.8	2,606.1
1982	775.8	1,157.6	d	1,933.4	367.9	2,301.3
1983	632.2	973.3	d	1,605.5	368.3	1,973.8
1984	670.5	1,079.5	d	1,750.0	405.8	2,155.8
1985	835.4	1,113.3	d	1,948.7	364.5	2,313.2
1986	681.0	766.1	d	1,447.1	315.3	1,762.4
1987	581.7	927.3	d	1,509.0	395.2	1,904.2
1988[R]	455.4	880.5	d	1,335.9	337.7	1,673.6
1989	450.8	829.4	d	1,280.2	358.0	1,638.2

a. Excludes direct sales by producers to electric utilities.
b. No breakdown available prior to 1971.
c. Represents transfers by the gas department to the electric department of combination gas and electric companies.
d. Other now included with Industrial to conform to the definition of industrial services.
R–Revised.

TABLE 6-14
GAS UTILITY INDUSTRY GAS USED FOR ELECTRIC GENERATION, BY STATE, 1989[a]

(Trillions of Btu)

Division of State	Industrial Sales			Transfers[b]	Total Sales and Transfers
	Firm	Interruptible	Total		
United States	**450.8**	**829.4**	**1,280.2**	**358.0**	**1,638.2**
New England	**0.1**	**49.8**	**49.9**	**0.8**	**50.7**
Connecticut	c	0.7	0.8	0.8	1.5
Maine	0.0	0.0	0.0	0.0	0.0
Massachusetts	c	48.8	48.8	c	48.9
New Hampshire	0.0	c	c	0.0	c
Rhode Island	0.0	0.2	0.2	0.0	0.2
Vermont	0.0	0.1	0.1	0.0	0.1
Middle Atlantic	**1.4**	**22.9**	**24.3**	**192.2**	**216.5**
New Jersey	0.7	16.6	17.3	39.2	56.5
New York	0.2	6.3	6.5	153.0	159.5
Pennsylvania	0.5	c	0.5	0.0	0.5
East North Central	**2.4**	**2.0**	**4.5**	**1.4**	**5.9**
Illinois	0.6	1.5	2.1	0.1	2.2
Indiana	0.3	0.0	0.3	0.9	1.2
Michigan	0.3	c	0.3	0.0	0.3
Ohio	0.5	0.2	0.7	0.0	0.7
Wisconsin	0.7	0.3	1.1	0.4	1.5
West North Central	**2.8**	**2.8**	**5.6**	**2.4**	**8.0**
Iowa	0.4	0.9	1.3	0.8	2.1
Kansas	1.1	0.2	1.3	0.3	1.6
Minnesota	0.2	0.9	1.1	0.6	1.7
Missouri	0.3	0.1	0.4	0.7	1.1
Nebraska	0.8	0.6	1.4	c	1.4
North Dakota	0.0	c	c	0.0	c
South Dakota	0.0	0.1	0.1	c	0.1
South Atlantic	**c**	**192.2**	**192.2**	**16.3**	**208.5**
Delaware	0.0	0.4	0.4	6.1	6.5
District of Columbia	0.0	0.0	0.0	0.0	0.0
Florida	0.0	178.9	178.9	0.0	178.9
Georgia	c	0.7	0.8	0.0	0.8
Maryland	0.0	9.1	9.1	8.2	17.3
North Carolina	0.0	c	c	0.0	c
South Carolina	0.0	0.6	0.6	2.0	2.6
Virginia	0.0	0.0	0.0	0.0	0.0
West Virginia	0.0	2.4	2.4	0.0	2.4
East South Central	**0.2**	**4.8**	**5.0**	**0.1**	**5.1**
Alabama	0.1	c	0.2	0.0	0.2
Kentucky	0.0	0.0	0.0	0.1	0.1
Mississippi	c	4.7	4.8	0.0	4.8
Tennessee	0.0	c	c	0.0	c
West South Central	**375.7**	**122.9**	**498.7**	**137.9**	**636.6**
Arkansas	c	0.0	c	0.0	c
Louisiana	15.0	13.7	28.7	20.0	48.7
Oklahoma	0.7	0.3	1.1	73.4	74.5
Texas	360.0	108.9	468.9	44.5	513.4
Mountain	**36.1**	**2.0**	**38.1**	**6.9**	**45.0**
Arizona	33.9	c	33.9	0.0	33.9
Colorado	1.1	1.8	2.9	5.0	7.9
Idaho	0.0	0.0	0.0	0.0	0.0
Montana	0.0	c	c	0.3	0.3
Nevada	0.4	0.0	0.4	1.6	2.0
New Mexico	0.5	0.0	0.5	0.0	0.5
Utah	0.0	0.2	0.2	0.0	0.2
Wyoming	0.2	0.0	0.2	0.0	0.2
Pacific	**32.1**	**429.9**	**461.9**	**0.0**	**461.9**
Alaska	15.0	0.0	15.0	0.0	15.0
California	16.7	429.8	446.5	0.0	446.5
Hawaii	0.0	0.0	0.0	0.0	0.0
Oregon	0.0	c	c	0.0	c
Washington	0.4	0.0	0.4	0.0	0.4

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a. Excludes direct sales by producers to electric utilities.
b. Volumes transferred by the gas department to the electric department of combination gas and electric companies.
c. Less than 0.05 trillion Btu.

TABLE 6-10

GAS UTILITY INDUSTRY COMMERCIAL AND OTHER GAS VOLUMES, BY TYPE OF INDUSTRY CLASSIFICATION AND BY DIVISION, 1989

(Trillions of Btu)

Industry Classification	Standard Industrial Classification	Total U.S.	New England	Middle Atlantic	East North Central	West North Central	South Atlantic	East South Central	West South Central	Mountain	Pacific
Agriculture, Forestry and Fishing	01-09	25.8	0.2	1.2	6.6	3.1	0.5	0.2	4.3	4.6	5.2
Mining[b]	10-14	1.4	a	0.1	0.1	0.2	a	a	0.1	0.6	0.2
Construction	15-17	12.1	0.6	1.3	4.4	1.5	0.8	0.3	0.7	1.6	0.8
Manufacturing[b]	20-39	93.2	0.5	21.8	17.7	6.3	7.2	0.8	3.5	3.8	31.6
Transportation	40-48	37.6	1.4	6.3	11.6	3.6	2.7	1.3	3.9	3.9	3.0
Utility Services other than Electric Generation	49	25.3	0.3	8.2	4.9	3.0	2.2	1.5	0.9	1.5	2.8
Wholesale Trade	50-51	38.5	1.5	2.9	14.0	3.4	3.9	1.7	4.5	3.2	3.3
Retail Trade	50-57, 59	88.6	3.6	13.4	30.1	9.6	8.5	2.8	4.0	7.5	9.0
Restaurants and Drinking Places	58	77.7	4.4	12.2	20.4	5.3	7.9	2.7	7.5	4.4	12.8
Finance and Insurance	60-64, 66, 67	17.4	0.6	3.2	4.7	1.9	1.1	0.5	1.8	1.5	2.0
Real Estate (Apartments)	65	151.7	9.3	21.7	40.1	12.7	25.2	2.0	17.6	17.4	5.6
Hotels & Other Lodging Places	70	37.2	1.2	6.3	7.6	3.2	4.7	1.5	3.8	4.0	4.8
Services	72-79	92.4	3.6	14.6	25.4	7.4	8.7	3.7	8.6	8.0	12.5
Health Services, Hospitals	80	100.2	3.7	17.0	29.6	9.8	16.4	4.9	7.8	4.1	6.9
Legal & Social Services	81, 83, 84	13.7	0.3	1.8	3.8	1.9	1.1	0.6	1.2	0.7	2.3
Education (Schools)	82	144.3	3.6	22.5	47.7	15.4	14.0	6.2	12.7	10.3	12.0
Membership Organizations & Miscellaneous Services	86-89	67.7	1.6	12.9	25.8	6.0	6.2	2.7	4.6	3.4	4.3
Public Administration	91-97	77.0	2.1	14.7	15.6	6.2	11.9	3.4	8.9	6.6	7.6
Non-Classifiable	99	74.9	9.9	7.5	2.5	23.5	8.1	a	4.9	15.9	2.5
Not Classified		1,822.0	62.6	231.1	387.6	182.4	143.4	96.5	241.6	83.1	393.7
Total Gas Utility Industry, Commercial & Other Sales & Transportation		**2,998.5**	**111.0**	**420.9**	**700.2**	**306.2**	**274.8**	**133.1**	**343.0**	**186.2**	**523.1**
Total Gas Utility Industry, Commercial & Other Sales & Transportation of Companies reporting this table		**1,780.0**	**59.9**	**328.4**	**508.3**	**137.8**	**191.0**	**70.3**	**188.2**	**142.1**	**154.1**

a. Less than 0.05 trillion Btu.

b. These groups are generally considered as industrial by the gas industry, but non-manufacturing uses such as those for office buildings and warehouses associated with manufacturing facilities are considered to be commercial.

TABLE 6-11
GAS UTILITY INDUSTRY INDUSTRIAL AND ELECTRIC GENERATION VOLUMES, BY TYPE OF INDUSTRY CLASSIFICATION AND BY DIVISION, 1989

(Trillions of Btu)

Industry Classification	Standard Industrial Classification	Total U.S.	New England	Middle Atlantic	East North Central	West North Central	South Atlantic	East South Central	West South Central	Mountain	Pacific
Agriculture, Forestry and Fishing[b]	01-09	62.5	0.0	0.3	2.1	1.6	0.6	0.6	52.3	1.4	3.7
Mining	10-14	28.1	0.0	0.6	5.2	2.1	0.9	0.1	6.5	7.2	5.5
Construction[b]	15-17	5.7	a	0.2	1.5	0.4	0.5	a	1.7	0.5	0.9
Food & Kindred Products	20	223.4	2.1	19.3	64.8	39.5	24.8	11.2	19.0	9.1	33.4
Tobacco Manufacturers	21	1.7	0.1	0.1	0.1	a	0.8	0.7	a	0.0	0.0
Textile Mill Products	22	57.9	2.1	4.6	1.6	0.1	44.3	4.2	0.8	a	0.2
Apparel & Other Textile Products	23	7.5	0.3	1.0	0.8	0.2	2.4	1.8	0.9	0.1	0.1
Lumber & Wood Products	24	26.4	a	0.9	3.6	0.9	1.5	1.1	4.2	0.9	13.2
Furniture & Fixtures	25	7.5	0.1	1.0	3.0	0.7	1.4	0.7	0.6	0.1	a
Paper & Allied Products	26	188.0	2.9	18.6	48.3	7.1	25.5	13.8	31.5	4.2	36.2
Printing & Publishing	27	13.4	0.4	2.1	6.6	0.9	1.9	0.6	0.6	0.1	0.3
Chemicals & Allied Products	28	296.5	3.3	26.3	59.9	15.7	73.3	17.2	81.0	11.0	8.7
Petroleum & Coal Products	29	94.3	0.3	6.7	17.3	1.8	5.5	5.4	24.2	8.6	24.6
Rubber & Miscellaneous Plastic Products	30	46.0	1.5	4.1	20.8	1.5	7.0	6.4	2.9	1.2	0.6
Leather & Leather Products	31	2.4	a	0.6	1.1	0.3	a	0.2	0.2	a	0.1
Stone, Clay, Glass & Concrete Products	32	191.5	2.3	44.9	31.9	7.9	54.2	20.4	12.4	7.2	10.5
Primary Iron & Steel	331-332	309.6	0.9	52.9	177.0	2.8	30.2	29.6	2.0	10.3	4.0
Primary Nonferrous Metals	333-339	109.8	3.1	13.7	43.1	6.5	5.1	9.7	14.2	8.7	5.6
Fabricated Metal Products	34	84.3	3.1	11.6	43.3	4.5	5.4	6.3	7.7	0.7	1.6
Machinery, Except Electrical	35	47.6	1.6	5.6	25.8	4.0	3.5	1.8	2.5	0.7	2.2
Electric & Electronic Equipment	36	42.3	1.5	9.8	14.6	2.3	6.2	2.6	4.2	0.5	0.6
Transportation Equipment	37	51.7	2.7	4.1	26.7	2.1	6.5	3.5	3.1	2.7	0.3
Instruments & Related Products	38	9.8	1.4	3.8	1.7	0.2	1.4	0.3	0.5	0.1	0.5
Other Manufacturing	39	20.3	1.4	5.3	5.0	1.6	0.9	2.0	1.4	1.4	1.5
Transportation[b]	40-48	14.2	a	3.2	3.3	2.4	1.6	0.1	2.0	0.9	0.7
Utility Services other than Electric Generation[b]	49	86.3	2.1	8.1	1.6	3.9	2.3	1.9	37.7	3.5	25.1
Electric Generation[c]	491, 493	1,682.6	60.6	42.2	8.7	13.6	204.9	16.5	698.2	71.2	566.7
Not Classified		2,671.6	32.9	150.6	682.5	214.4	176.8	165.6	977.0	88.4	183.6
Total Gas Utility Industry, Industrial & Electric Generation Sales & Transportation		**6,383.1**	**126.7**	**442.0**	**1,301.8**	**338.8**	**689.4**	**324.5**	**1,989.2**	**240.6**	**930.2**
Total Gas Utility Industry, Industrual & Electric Generation Sales & Transportation of Companies reporting this table		**3,094.2**	**41.1**	**292.2**	**1,020.6**	**195.7**	**342.2**	**149.9**	**729.6**	**112.3**	**210.6**
Transfers[c]		**358.0**	**0.8**	**192.2**	**1.4**	**2.4**	**16.3**	**0.1**	**137.9**	**6.9**	**0.0**

a. Less than 0.05 trillion Btu.

b. These groups are considered as commercial by the gas industry, but are repeated here because some companies still classify a portion of them as industrial.

c. Includes the quantities for electric generation detailed as "Transfers" which are not included in Total Industrial and Electric Generation sales of companies reporting this table or in Total Gas Utility Industry sales. Such quantities represent transfers by the gas department to the electric department of combination gas and electric companies.

TABLE 6-15
TOTAL LIQUEFIED PETROLEUM GAS SALES BY CONSUMING SECTOR
1967-1988[a]

(Trillions of Btu)

Year	Total	Sector			
		Residential	Commercial	Industrial	Transportation
1967^R	1,322.0	483.3	85.3	714.7	38.7
1968^R	1,472.8	519.1	91.6	818.6	43.4
1969^R	1,695.6	589.6	104.1	956.6	45.3
1970^R	1,688.5	578.9	102.2	963.9	43.6
1971^R	1,722.9	585.4	103.3	983.9	50.3
1972^R	1,954.6	628.0	110.8	1,163.9	51.9
1973^R	1,980.7	594.8	105.0	1,232.7	48.3
1974^R	1,913.8	545.9	96.3	1,227.3	44.3
1975^R	1,807.1	527.8	93.1	1,144.5	41.7
1976^R	1,907.3	549.2	96.9	1,215.7	45.5
1977^R	1,907.9	533.5	94.1	1,232.4	47.9
1978^R	1,891.9	516.4	91.1	1,232.9	51.5
1979^R	2,138.1	354.8	62.6	1,699.9	20.8
1980^R	1,976.0	325.1	57.4	1,576.6	16.9
1981^R	1,948.9	310.9	54.9	1,550.9	32.2
1982^R	1,978.4	296.1	52.3	1,598.0	32.1
1983^R	1,990.2	352.4	62.2	1,537.5	38.1
1984^R	2,071.2	379.0	66.9	1,585.3	40.1
1985^R	2,102.7	422.5	74.6	1,578.0	27.7
1986^R	2,009.5	413.0	72.9	1,497.7	25.9
1987^R	2,152.5	421.5	74.4	1,636.0	20.6
1988	2,213.4	454.4	80.2	1,656.5	22.2

a. Liquefied petroleum gases include ethane, ethylene, propane, propylene, butane, butylene, butane-propane mixture, ethane-propane mixture, and isobutane. The 1979-1988 LPG data may not be directly comparable to the pre-1979 data due to modifications to the LPG sales survey form and an updated sampling frame.

R—Revised.

Source: U.S. Department of Energy, Energy Information Administration, *State Energy Data Reports*.

SECTION 7
REVENUES

	1989	% Change 89/88
Gas Utility Industry		
(Thousands)		
Total Revenues (From sales)	$47,493,381	+ 2.9
Residential	26,171,772	+ 5.4
Commercial	11,077,314	+ 3.7
Industrial	9,660,411	− 4.5
Industrial Only	6,211,444	− 7.5
Electric Generation	3,448,967	+ 1.4
Other	583,884	+ 8.4
Resale	$17,277,914	− 13.9

REVENUES

TABLE 7-1
GAS UTILITY INDUSTRY REVENUES, BY CLASS OF SERVICE, 1967-1989

(Thousands)

Year	Total	Residential	Commercial	Industrial[a]	Other[a]
1967	$ 8,260,739	$ 4,382,837	$ 1,223,897	$ 2,460,885	$193,120
1968	8,781,152	4,567,307	1,315,409	2,675,261	223,175
1969	9,479,566	4,883,029	1,459,054	2,918,973	218,510
1970	10,282,611	5,207,335	1,620,446	3,181,206	273,624
1971	11,357,392	5,635,395	1,829,309	3,568,582	324,106
1972	12,465,235	6,094,171	2,063,803	3,943,011	364,250
1973	12,987,272	6,246,988	2,172,460	4,196,714	371,110
1974	15,242,481	6,899,395	2,539,300	5,391,139	412,647
1975	19,101,498	8,445,484	3,302,669	6,745,171	608,174
1976	23,701,211	9,941,013	4,075,009	9,434,751	250,438
1977	28,303,200	11,540,805	4,979,890	11,454,675	327,830
1978	32,149,921	12,938,865	5,695,666	13,138,576	376,814
1979	38,947,143	14,832,950	6,623,766	17,044,820	445,607
1980	48,302,986	17,432,094	8,183,432	22,239,982	447,478
1981	56,109,859	19,180,238	9,285,549	27,123,865	520,207
1982	63,199,775	23,699,899	11,666,099	27,200,015	633,762
1983	65,836,669	26,173,122	12,658,718	26,314,873	689,956
1984	67,496,298	27,484,877	13,205,106	26,093,776	712,539
1985	63,292,552	26,864,099	12,722,134	23,085,833	620,486
1986	51,200,810	24,759,281	11,273,843	14,494,725	672,961
1987	45,491,823	23,622,262	10,271,485	11,068,424	529,652
1988[R]	46,161,619	24,828,402	10,681,487	10,113,245	538,485
1989	47,493,381	26,171,772	11,077,314	9,660,411	583,884

[a] Prior to 1976 "Other" electric generation (refer to Table 7-8) is included in the "Other" class of service. For 1976 and beyond all electric generation is included in the Industrial category.

R–Revised.

TABLE 7-2
GAS UTILITY INDUSTRY REVENUES, BY QUARTER AND CLASS OF SERVICE
1975-1989

(Thousands)

Year and Quarter	Total	Residential	Commercial	Industrial[a]	Other[a]
1975					
First	$ 6,192,706	$ 3,303,345	$ 1,241,301	$ 1,507,088	$ 140,972
Second	4,449,583	1,972,484	734,977	1,625,673	116,449
Third	3,396,905	987,079	438,873	1,783,838	187,115
Fourth	5,062,304	2,182,576	887,518	1,828,572	163,638
1980					
First	16,451,183	7,338,136	3,246,038	5,698,318	168,691
Second	10,079,782	3,383,415	1,567,534	5,045,581	83,252
Third	8,578,869	1,785,894	1,036,782	5,690,536	65,657
Fourth	13,193,152	4,924,649	2,333,078	5,805,547	129,878
1981					
First	18,801,868	8,306,949	3,745,524	6,558,875	190,520
Second	12,100,479	3,431,509	1,700,872	6,864,140	103,958
Third	10,093,166	1,953,490	1,174,407	6,886,530	78,739
Fourth	15,114,346	5,488,290	2,664,746	6,814,320	146,990
1982					
First	22,716,502	10,471,317	4,812,798	7,199,859	232,528
Second	13,208,177	4,427,895	2,205,520	6,459,704	115,058
Third	10,788,316	2,372,937	1,455,682	6,868,834	90,863
Fourth	16,486,780	6,427,750	3,192,099	6,671,618	195,313
1983					
First	23,039,000	10,804,224	5,020,783	6,950,292	263,701
Second	14,587,145	5,598,036	2,665,010	6,176,141	147,958
Third	10,920,330	2,597,847	1,544,337	6,682,247	95,899
Fourth	17,290,194	7,173,015	3,428,588	6,506,193	182,398
1984					
First	25,546,562	12,465,689	5,734,074	7,050,372	296,427
Second	14,279,409	5,321,699	2,579,755	6,245,386	132,569
Third	10,848,608	2,687,920	1,553,057	6,523,808	83,823
Fourth	16,821,719	7,009,569	3,338,220	6,274,210	199,720
1985					
First	24,901,945	12,459,204	5,675,345	6,517,019	268,377
Second	12,186,443	4,597,373	2,221,153	5,255,653	112,264
Third	9,790,920	2,658,15[illegible]	1,468,241	5,591,635	72,886
Fourth	16,413,244	7,149,364	3,375,395	5,721,526	166,959
1986					
First	21,148,759	11,158,610	5,043,862	4,709,532	236,755
Second	9,938,670	4,385,310	1,991,030	3,404,542	157,788
Third	7,048,578	2,541,541	1,271,234	3,133,258	102,545
Fourth	13,064,803	6,673,820	2,967,717	3,247,393	175,873
1987					
First	17,935,993	10,321,003	4,365,609	3,038,548	210,833
Second	8,869,975	4,297,368	1,883,296	2,589,672	99,639
Third	6,453,192	2,469,925	1,207,333	2,704,286	71,648
Fourth	12,232,663	6,533,966	2,815,247	2,735,918	147,532
1988R					
First	18,899,116	11,036,793	4,673,645	2,959,952	228,726
Second	8,363,074	4,295,351	1,856,494	2,118,607	92,622
Third	6,372,234	2,474,983	1,195,658	2,645,835	55,758
Fourth	12,527,195	7,021,275	2,955,690	2,388,851	161,379
1989					
First	18,659,468	11,204,649	4,649,382	2,590,516	214,921
Second	8,577,666	4,514,071	1,942,663	2,013,838	107,094
Third	6,389,177	2,646,431	1,231,889	2,426,614	84,243
Fourth	13,867,070	7,806,621	3,253,380	2,629,443	177,626

a. Prior to 1976 "Other" electric generation (see Table 7-8) is included in the "Other" class of service. For 1976 and beyond all electric generation is included in the Industrial category.

R–Revised.

REVENUES

TABLE 7-3
GAS UTILITY INDUSTRY REVENUES, BY STATE
1975-1989[a]

(Thousands)

Division and State	1975	1980	1985	1986	1987	1988^{R}	1989
United States	**$19,101,498**	**$48,302,986**	**$63,292,552**	**$51,200,810**	**$45,491,823**	**$46,161,619**	**$47,493,381**
New England	**700,071**	**1,479,112**	**2,289,149**	**2,053,700**	**2,042,294**	**2,014,872**	**2,289,200**
Connecticut	178,480	366,348	572,431	550,531	539,908	537,687	581,681
Maine	5,983	11,156	19,318	17,945	17,630	18,497	21,541
Massachusetts	425,411	905,414	1,388,928	1,200,111	1,199,713	1,179,609	1,371,466
New Hampshire	17,190	40,569	71,173	68,331	72,095	70,422	94,345
Rhode Island	65,982	132,190	207,349	189,819	185,820	181,814	189,637
Vermont	7,025	23,435	29,950	26,963	27,128	26,843	30,530
Middle Atlantic	**2,940,846**	**6,603,468**	**9,466,303**	**8,634,891**	**7,782,705**	**7,725,311**	**8,303,016**
New Jersey	594,560	1,408,766	2,144,776	2,004,360	1,918,489	1,905,860	2,107,888
New York	1,248,149	2,663,655	4,198,569	3,833,287	3,384,776	3,353,780	3,643,381
Pennsylvania	1,098,137	2,531,047	3,122,958	2,797,244	2,479,440	2,465,671	2,551,747
East North Central	**5,033,327**	**11,584,266**	**15,254,866**	**12,864,253**	**10,238,710**	**10,758,952**	**11,037,604**
Illinois	1,504,405	3,588,046	4,546,146	3,954,573	3,043,150	3,008,532	3,120,482
Indiana	530,454	1,341,428	1,881,958	1,571,647	1,191,948	1,283,693	1,375,695
Michigan	1,269,106	2,602,792	3,779,438	2,965,390	2,384,851	2,552,746	2,557,720
Ohio	1,254,154	2,875,396	3,413,729	3,032,971	2,560,097	2,722,822	2,793,853
Wisconsin	475,208	1,176,604	1,633,595	1,339,672	1,058,664	1,191,168	1,189,854
West North Central	**1,585,864**	**3,778,158**	**5,272,430**	**4,356,593**	**3,500,864**	**3,825,454**	**3,748,283**
Iowa	311,364	718,370	998,934	836,090	608,321	676,035	667,565
Kansas	282,119	815,547	937,324	726,500	614,154	589,278	542,567
Minnesota	352,170	750,995	1,277,197	1,068,779	817,895	965,884	988,917
Missouri	406,752	992,492	1,277,040	1,103,744	944,110	1,007,152	980,129
Nebraska	169,010	356,352	536,737	414,124	345,545	398,986	388,285
North Dakota	31,037	77,168	119,167	102,503	89,004	93,152	85,690
South Dakota	33,412	67,234	126,031	104,853	81,835	94,586	95,130
South Atlantic	**1,538,752**	**4,112,603**	**5,787,396**	**5,095,965**	**5,089,378**	**4,762,307**	**4,989,394**
Delaware	33,229	78,336	124,740	115,218	99,525	98,197	106,782
District of Columbia	54,671	120,837	205,515	203,788	190,082	192,861	205,123
Florida	146,526	611,114	910,783	701,026	869,499	726,315	879,084
Georgia	349,550	950,915	1,436,103	1,221,603	1,178,030	1,149,412	1,042,922
Maryland	272,830	598,324	780,472	755,235	703,257	677,215	734,717
North Carolina	165,659	495,459	670,080	608,360	636,263	599.563	624,915
South Carolina	130,662	354,351	480,164	421,647	446,707	413,043	418,628
Virginia	206,109	482,080	736,868	669,034	609,650	606,728	672,269
West Virginia	179,516	421,187	442,671	400,054	356,365	298,973	304,954
East South Central	**775,705**	**2,306,090**	**2,846,738**	**2,293,208**	**2,026,877**	**2,114,742**	**2,036,260**
Alabama	237,710	698,762	860,907	718,839	606,982	627,180	539,890
Kentucky	199,738	509,455	694,725	545,376	472,809	504,361	518,960
Mississippi	134,730	517,786	554,370	413,804	359,621	349,068	330,926
Tennessee	203,527	580,087	736,736	615,189	587,465	634,133	646,484
West South Central	**2,953,148**	**8,951,915**	**9,062,862**	**6,864,686**	**5,756,099**	**5,846,384**	**5665,556**
Arkansas	175,862	408,334	559,821	410,797	368,823	494,033	398,439
Louisiana	386,609	1,215,482	1,118,878	780,850	802,200	723,593	781,145
Oklahoma	328,817	965,728	982,583	621,142	542,880	572,143	642,968
Texas	2,061,860	6,362,371	6,401,580	5,051,897	4,042,196	4,056,615	3,843,004
Mountain	**920,668**	**2,393,490**	**3,050,419**	**2,269,551**	**2,114,856**	**2,159,187**	**2,252,709**
Arizona	171,773	384,777	573,729	338,220	344,289	370,420	443,244
Colorado	241,901	713,628	907,835	759,053	716,491	705,499	719,176
Idaho	75,818	182,600	171,432	106,651	93,628	82,404	78,362
Montana	82,021	163,917	204,292	155,632	136,492	148,707	157,929
Nevada	79,858	196,982	226,256	158,474	144,845	174,833	163,852
New Mexico	125,617	333,855	351,053	267,326	236,634	240,724	252,826
Utah	101,164	284,725	453,012	359,651	341,011	336,274	335,816
Wyoming	42,516	133,006	162,810	124,544	101,466	100,326	101,504
Pacific	**2,653,117**	**7,093,884**	**10,262,389**	**6,767,963**	**6,940,040**	**6,954,410**	**7,171,359**
Alaska	24,829	38,725	95,581	106,977	100,243	111,419	120,090
California	2,193,048	6,076,193	8,969,857	5,750,067	6,005,674	6,012,064	6,220,526
Hawaii	24,125	45,162	44,305	37,465	38,556	38,023	38,876
Oregon	156,703	354,502	432,989	321,391	318,050	294,644	268,661
Washington	254,412	579,302	719,657	552,063	477,517	498,260	523,206

a. Excludes revenues from sales for resale.

R–Revised.

TABLE 7-4
GAS UTILITY INDUSTRY REVENUES FROM GAS FOR RESALE, BY STATE, 1975-1989

(Thousands)

Division and State	1975	1980	1985	1986	1987	1988^{R}	1989
United States	**$11,573,752**	**$37,900,088**	**$39,772,658**	**$27,243,450**	**$21,471,367**	**$20,061,156**	**$17,277,914**
New England	**382,550**	**851,449**	**1,196,319**	**920,749**	**954,706**	**776,176**	**756,898**
Connecticut	125,226	222,022	276,241	221,372	215,774	202,599	197,059
Maine	0	0	0	0	0	0	0
Massachusetts	216,069	529,965	770,323	576,374	517,855	474,382	458,342
New Hampshire	5,744	17,577	33,292	26,566	134,663	16,734	16,497
Rhode Island	34,645	81,885	116,463	96,437	86,414	82,461	85,000
Vermont	866	0	0	0	0	0	0
Middle Atlantic	**1,761,307**	**5,815,523**	**6,604,685**	**4,765,072**	**4,006,322**	**3,676,625**	**3,242,938**
New Jersey	365,302	1,250,773	1,500,354	1,151,209	1,106,387	982,324	866,174
New York	532,961	1,829,091	2,273,815	1,531,036	1,239,036	1,015,390	950,377
Pennsylvania	863,044	2,735,659	2,830,516	2,082,827	1,660,899	1,678,911	1,426,387
East North Central	**3,596,246**	**10,687,835**	**11,510,873**	**8,192,807**	**5,545,810**	**5,689,484**	**4,405,350**
Illinois	1,041,633	3,412,478	4,020,673	2,797,463	1,685,208	1,885,126	1,764,662
Indiana	292,665	988,871	1,310,034	1,234,469	869,433	737,141	700,045
Michigan	659,019	1,804,423	1,471,009	875,090	618,345	614,846	539,610
Ohio	1,144,706	3,145,106	3,199,641	2,229,990	1,681,530	1,820,153	785,065
Wisconsin	458,223	1,336,957	1,509,516	1,055,795	691,294	632,218	615,968
West North Central	**803,046**	**2,198,971**	**3,285,293**	**2,739,928**	**2,048,626**	**1,947,074**	**1,745,975**
Iowa	202,852	517,052	613,404	537,913	319,608	330,685	270,385
Kansas	89,538	265,146	380,686	292,469	273,894	232,536	223,306
Minnesota	178,677	554,425	885,481	766,472	526,978	485,169	409,231
Missouri	231,990	628,970	941,573	756,547	619,817	585,755	569,164
Nebraska	77,384	174,217	292,336	243,591	195,386	194,474	174,019
North Dakota	7,695	22,277	72,384	63,301	52,486	54,090	42,226
South Dakota	14,910	36,884	99,429	79,635	60,457	64,365	57,644
South Atlantic	**1,094,146**	**3,580,787**	**3,882,772**	**2,734,039**	**2,225,417**	**1,937,252**	**1,851,915**
Delaware	1,170	2,180	8,041	6,498	4,728	4,913	30,075
District of Columbia	0	0	0	0	0	0	0
Florida	54,786	218,749	304,365	222,042	264,062	235,377	251,792
Georgia	217,592	709,353	1,091,463	735,816	594,545	503,389	442,169
Maryland	159,003	480,609	484,449	413,111	287,755	254,897	254,300
North Carolina	96,134	440,145	520,029	372,000	354,161	232,592	118,202
South Carolina	86,854	313,732	344,559	246,310	222,254	179,537	241,157
Virginia	177,878	542,737	722,299	557,467	277,214	254,175	237,122
West Virginia	300,729	873,282	407,567	180,795	220,698	272,372	277,098
East South Central	**752,002**	**2,695,523**	**2,882,411**	**1,980,694**	**1,467,379**	**1,461,697**	**1,060,541**
Alabama	140,282	495,051	670,921	403,144	291,796	268,049	229,349
Kentucky	169,609	528,686	609,693	400,220	322,134	330,548	217,275
Mississippi	163,268	632,103	490,749	287,433	211,720	150,479	131,151
Tennessee	278,843	1,039,683	1,111,048	889,897	641,729	712,621	482,766
West South Central	**765,273**	**4,313,620**	**2,836,863**	**1,758,547**	**1,584,040**	**1,531,389**	**1,490,883**
Arkansas	9,328	25,469	37,353	31,399	51,994	28,523	21,401
Louisiana	354,067	1,383,886	966,312	578,286	361,223	318,302	527,045
Oklahoma	91,809	422,361	190,649	78,885	51,533	38,440	57,610
Texas	310,069	2,481,904	1,642,549	1,069,977	1,119,290	1,146,124	884,827
Mountain	**1,349,007**	**4,434,173**	**5,270,940**	**2,734,085**	**2,144,611**	**1,748,176**	**1,482,424**
Arizona	935,305	3,093,184	3,685,562	1,587,397	1,176,118	929,911	692,803
Colorado	163,200	657,917	706,735	548,366	507,308	448,023	435,650
Idaho	96,221	228,724	184,861	101,202	99,425	45,438	17,304
Montana	7,289	25,957	72,458	56,621	47,777	48,526	45,189
Nevada	12,147	36,042	51,030	38,340	37,359	38,538	38,326
New Mexico	34,447	111,849	112,829	37,723	33,296	27,732	40,367
Utah	3,113	15,333	277,426	235,792	189,308	169,475	180,592
Wyoming	97,285	265,167	180,039	128,644	54,020	40,533	32,193
Pacific	**1,070,175**	**3,322,207**	**2,302,502**	**1,417,529**	**1,494,456**	**1,293,283**	**1,240,990**
Alaska	0	22,677	0	0	0	0	0
California	294,546	1,199,764	572,465	388,932	387,666	265,616	268,474
Hawaii	0	0	0	0	0	0	0
Oregon	598,295	1,665,022	1,264,807	753,600	881,038	853,683	857,177
Washington	177,334	434,744	465,230	274,997	225,752	173,984	115,339

R – Revised.

TABLE 7-5
GAS UTILITY INDUSTRY REVENUES, BY STATE AND CLASS OF SERVICE, 1989

(Thousands)

Division and State	Total	Class of Service Residential	Commercial	Industrial	Electric Generation	Other
United States	**$47,493,381**	**$26,171,772**	**$11,077,314**	**$6,211,444**	**$3,448,967**	**$583,884**
New England	**2,289,200**	**1,277,904**	**619,026**	**251,086**	**124,794**	**16,390**
Connecticut	581,681	332,132	165,751	80,895	2,314	589
Maine	21,541	4,684	10,593	6,300	0	0
Massachusetts	1,371,466	754,324	353,629	128,371	121,655	13,487
New Hampshire	94,345	48,195	35,964	8,907	65	1,214
Rhode Island	189,637	124,942	44,732	19,157	578	228
Vermont	30,530	13,663	8,357	7,456	182	872
Middle Atlantic	**8,303,016**	**5,426,908**	**1,923,212**	**709,671**	**68,248**	**174,977**
New Jersey	2,107,888	1,248,000	607,950	202,006	48,947	985
New York	3,643,381	2,525,740	746,522	225,537	17,294	128,288
Pennsylvania	2,551,747	1,653,168	568,740	282,128	2,007	45,704
East North Central	**11,037,604**	**7,469,537**	**2,522,375**	**990,552**	**15,340**	**39,800**
Illinois	3,120,482	2,149,624	670,991	291,963	7,343	561
Indiana	1,375,695	853,646	323,876	190,812	1,245	6,116
Michigan	2,557,720	1,825,821	589,403	138,487	1,114	2,895
Ohio	2,793,853	1,919,939	656,979	186,149	2,522	28,264
Wisconsin	1,189,854	720,507	281,126	183,141	3,116	1,964
West North Central	**3,748,283**	**2,147,152**	**1,141,657**	**431,560**	**14,646**	**13,268**
Iowa	667,565	372,639	180,653	107,154	3,644	3,475
Kansas	542,567	315,187	177,332	45,042	3,709	1,297
Minnesota	988,917	541,910	292,085	150,337	1,904	2,681
Missouri	980,129	614,017	294,496	64,840	1,492	5,284
Nebraska	388,285	203,789	129,961	50,384	3,626	525
North Dakota	85,690	45,954	37,716	1,959	55	6
South Dakota	95,130	53,656	29,414	11,844	216	0
South Atlantic	**4,989,394**	**2,240,913**	**1,260,295**	**991,943**	**480,920**	**15,323**
Delaware	106,782	48,773	22,559	34,312	1,046	92
District of Columbia	205,123	96,077	109,046	0	0	0
Florida	879,084	101,563	159,424	168,741	445,718	3,638
Georgia	1,042,922	602,188	249,834	186,531	2,214	2,155
Maryland	734,717	439,234	174,756	97,260	23,324	143
North Carolina	624,915	252,820	153,250	217,246	131	1,468
South Carolina	418,628	136,404	92,874	185,934	2,183	1,233
Virginia	672,269	359,290	224,248	82,418	0	6,313
West Virginia	304,954	204,564	74,304	19,501	6,304	281
East South Central	**2,036,260**	**973,764**	**508,003**	**499,197**	**6,750**	**48,546**
Alabama	539,890	286,576	117,862	132,728	545	2,179
Kentucky	518,960	308,668	127,596	63,080	0	19,616
Mississippi	330,926	145,790	64,043	98,791	6,128	16,174
Tennessee	646,484	232,730	198,502	204,598	77	10,577
West South Central	**5,665,556**	**2,090,831**	**971,457**	**1,152,119**	**1,223,343**	**227,806**
Arkansas	398,439	212,876	113,253	71,273	78	959
Louisiana	781,145	342,215	115,700	153,067	53,093	117,070
Oklahoma	642,968	323,807	133,638	180,546	2,735	2,242
Texas	3,843,004	1,211,933	608,866	747,233	1,167,437	107,535
Mountain	**2,252,709**	**1,270,814**	**689,194**	**180,636**	**74,659**	**37,406**
Arizona	443,244	186,845	123,752	63,564	64.009	5,074
Colorado	719,176	422,679	257,897	30,824	6,419	1,357
Idaho	78,362	43,172	27,722	7,468	0	0
Montana	157,929	79,952	51,186	21,730	74	4,987
Nevada	163,852	93,409	63,717	3,3[illegible]	1,560	23,703
New Mexico	252,826	155,830	60,174	11,445	1,674	1,768
Utah	335,816	233,267	69,325	32,572	503	149
Wyoming	101,504	55,660	35,421	9,635	420	368
Pacific	**7,171,359**	**3,273,949**	**1,442,095**	**1,004,680**	**1,440,267**	**10,368**
Alaska	120,090	49,076	36,556	0	34,458	0
California	6,220,526	2,867,785	1,120,337	818,876	1,405,028	8,500
Hawaii	38,876	9,092	16,139	13,645	0	0
Oregon	268,661	139,142	96,366	33,118	35	0
Washington	523,206	208,854	172,697	139,041	746	1,868

TABLE 7-6

GAS UTILITY INDUSTRY FIRM AND INTERRUPTIBLE GAS REVENUES, BY STATE, 1989

(Thousands)

	Commercial			Industrial[a]		
Division and State	Total	Firm	Interruptible	Total	Firm	Interruptible
United States	**$11,077,314**	**$9,959,394**	**$1,117,920**	**$6,211,444**	**$3,023,998**	**$3,187,446**
New England	**619,026**	**580,676**	**38,350**	**251,086**	**150,948**	**100,138**
Connecticut	165,751	139,902	25,849	80,895	50,908	29,987
Maine	10,593	9,053	1,540	6,300	4,684	1,616
Massachusetts	353,629	345,865	7,764	128,371	74,893	53,478
New Hampshire	35,964	35,779	185	8,907	5,183	3,724
Rhode Island	44,732	41,720	3,012	19,157	15,115	4,042
Vermont	8,357	8,357	0	7,456	165	7,291
Middle Atlantic	**1,923,212**	**1,814,398**	**108,814**	**709,671**	**459,863**	**249,808**
New Jersey	607,950	535,450	72,500	202,006	112,964	89,042
New York	746,522	733,497	13,025	225,537	165,111	60,426
Pennsylvania	568,740	545,451	23,289	282,128	181,788	100,340
East North Central	**2,522,375**	**2,478,095**	**44,280**	**990,552**	**827,351**	**163,201**
Illinois	670,991	666,020	4,971	291,963	244,685	47,278
Indiana	323,876	310,829	13,047	190,812	136,854	53,958
Michigan	589,403	589,259	144	138,487	128,417	10,070
Ohio	656,979	654,738	2,241	186,149	169,379	16,770
Wisconsin	281,126	257,249	23,877	183,141	148,016	35,125
West North Central	**1,141,657**	**1,023,126**	**118,531**	**431,560**	**215,731**	**215,829**
Iowa	180,653	158,820	21,833	107,154	68,012	39,142
Kansas	177,332	153,630	23,702	45,042	19,944	25,098
Minnesota	292,085	256,278	35,807	150,337	52,765	97,572
Missouri	294,496	273,917	20,579	64,840	49,384	15,456
Nebraska	129,961	119,472	10,489	50,384	19,255	31,129
North Dakota	37,716	33,235	4,481	1,959	704	1,255
South Dakota	29,414	27,774	1,640	11,844	5,667	6,177
South Atlantic	**1,260,295**	**1,118,249**	**142,046**	**991,943**	**450,040**	**541,903**
Delaware	22,559	22,559	0	34,312	26,427	7,885
District of Columbia	109,046	75,461	33,585	0	0	0
Florida	159,424	148,984	10,440	168,741	16,984	151,757
Georgia	249,834	246,832	3,002	186,531	79,946	106,585
Maryland	174,756	137,136	37,620	97,260	76,224	21,036
North Carolina	153,250	144,649	8,601	217,246	111,073	106,173
South Carolina	92,874	79,415	13,459	185,934	82,452	103,482
Virginia	224,248	192,049	32,199	82,418	50,689	31,729
West Virginia	74,304	71,164	3,140	19,501	6,245	13,256
East South Central	**508,003**	**488,603**	**19,400**	**499,197**	**347,511**	**151,686**
Alabama	117,862	109,043	8,819	132,728	65,936	66,792
Kentucky	127,596	125,715	1,881	63,080	46,783	16,297
Mississippi	64,043	64,037	6	98,791	88,887	9,904
Tennessee	198,502	189,808	8,694	204,598	145,905	58,693
West South Central	**971,457**	**967,062**	**4,395**	**1,152,119**	**341,600**	**810,519**
Arkansas	113,253	113,212	41	71,273	30,160	41,113
Louisiana	115,700	115,329	371	153,067	103,527	49,540
Oklahoma	133,638	131,316	2,322	180,546	57,082	123,464
Texas	608,866	607,205	1,661	747,233	150,831	596,402
Mountain	**689,194**	**685,378**	**3,816**	**180,636**	**135,545**	**45,091**
Arizona	123,752	123,690	62	63,564	63,564	0
Colorado	257,897	256,373	1,524	30,824	21,106	9,718
Idaho	27,722	27,722	0	7,468	7,190	278
Montana	51,186	50,956	230	21,730	4,413	17,317
Nevada	63,717	63,717	0	3,398	11,175	0
New Mexico	60,174	58,375	1,799	11,445	3,398	270
Utah	69,325	69,325	0	32,572	20,672	11,900
Wyoming	35,421	35,220	201	9,635	4,027	5,608
Pacific	**1,442,095**	**803,807**	**638,288**	**1,004,680**	**95,409**	**909,271**
Alaska	36,556	36,556	0	0	0	0
California	1,120,337	523,880	596,457	818,876	11,068	807,808
Hawaii	16,139	14,117	2,022	13,645	13,645	0
Oregon	96,366	96,180	186	33,118	22,410	10,708
Washington	172,697	133,074	39,623	139,041	48,286	90,755

a. Does not include electric generation.

TABLE 7-7
REVENUES FROM GAS UTILITY INDUSTRY SALES, BY TYPE OF INDUSTRY CLASSIFICATION, 1970–1987

(Thousands)

Industry Classification	1970	1975	1980	1985	1986	1987
Agriculture, forestry and fisheries	$ 13,373	$ 41,816	$ 137,952	$ 208,390	$ 144,398	$ 75,258
Petroleum and natural gas production	29,116	67,556	90,824	229,276	129,144	108,474
Other mining	18,744	44,664	214,732	111,223	64,831	19,978
Electric services[a]	750,879	1,482,516	6,750,928	8,693,019	4,691,501	4,718,438
Other transportation, communication, and public utilities	36,820	99,971	276,149	408,828	282,094	235,304
Hotels, rooming houses, and camps	34,089	85,216	97,974	193,306	191,491	161,354
Laundries, cleaning and dyeing	12,508	30,095	76,146	164,781	163,630	130,185
Other services	82,737	274,992	1,025,544	1,892,707	1,654,918	1,228,223
Other non-manufacturing	105,186	228,982	571,193	1,624,996	1,684,049	1,382,687
Ordnance	14,216	b	b	b	b	b
Food and kindred products	140,016	352,172	991,498	1,135,245	757,839	441,980
Textile products, apparel, fabrics, etc.	32,563	58,468	191,077	270,267	230,524	224,037
Furniture, lumber, and other wood products	25,097	65,210	166,086	163,813	112,523	88,952
Paper and allied products	137,086	258,795	760,852	791,030	451,292	317,650
Carbon black	12,613	26,646	65,844	9,976	5,704	2,691
Chemicals and allied products (except carbon black)	303,261	821,397	2,158,091	2,051,301	1,180,781	496,062
Petroleum refining	167,312	502,402	1,333,883	488,352	205,352	79,076
Rubber and miscellaneous plastic products	20,483	47,694	164,015	197,481	134,337	95,453
Glass products	92,362	183,233	524,302	429,443	290,355	144,339
Cement	81,001	130,210	135,038	35,363	20,929	11,614
Clay products, pottery, etc.	63,707	111,670	250,795	254,079	173,573	109,189
Other stone products and miscellaneous	61,841	103,389	277,604	223,292	162,286	89,138
Primary iron and steel industries	313,595	568,959	1,533,627	1,123,360	659,932	273,711
Primary non-ferrous industries	89,949	268,145	768,053	562,798	339,375	197,780
Fabricated metal products, machinery equipment and supplies	162,290	319,800	729,513	957,537	761,588	473,310
Transportation equipment	92,514	194,678	286,168	404,121	279,699	178,956
Other manufacturing	45,777	129,238	377,918	613,265	546,350	262,359
Public Administration	c	74,956	227,343	450,563	410,924	355,300
Unclassified[d]	608,138	4,377,080	13,597,472	13,951,654	11,440,134	10,884,073
Total Gas Utility Industry Commercial, Industrial and "Other" revenues[a,e]	**$ 3,547,273**	**$10,949,950**	**$38,143,276**	**$37,639,466**	**$27,169,553**	**$22,785,571**
Total Commercial, Industrial and "Other" revenues of co.'s reporting this table	**$ 3,028,083**	**$ 9,473,153**	**$28,759,666**	**$26,851,517**	**$19,420,096**	**$13,639,932**
Transfers[a]	**$ 92,443**	**$ 293,936**	**$ 1,157,694**	**$ 1,210,334**	**$ 728,024**	**$ 914,829**

a. Includes "revenues" detailed as transfers of gas for electric generation which are not included in Total Commercial, Industrial and "Other" revenues of companies reporting this table or in Total Gas Utility Industry revenues. Such "revenues" represent credits by the electric department to the gas department of combination gas and electric companies.

b. Classification eliminated.

c. New classification in 1972.

d. Difference between total and classified revenues.

e. Includes Industrial and "Other" sales only prior to 1971.

Note: Prior to 1982 only large volume sales detailed by SIC. After 1987, revenue data by SIC no longer collected.

TABLE 7-8
GAS UTILITY INDUSTRY REVENUES FROM GAS USED FOR ELECTRIC GENERATION, 1967-1989[a]

(Thousands)

	Revenue					
	Industrial[b]					
Year	Firm	Interruptible	Other	Total Revenue	Credits[c]	Total Revenue and Credits
1967	$ 346,912		$ 96,643	$ 443,555	$ 75,298	$ 518,853
1968	380,995		117,159	498,154	80,816	578,970
1969	426,325		112,454	538,779	71,747	610,526
1970	520,882		137,553	658,435	92,443	750,878
1971	$ 237,111	$ 335,539	160,035	732,685	201,213	933,898
1972	277,344	294,885	201,865	774,094	193,655	967,749
1973	185,106	309,653	214,419	709,178	197,418	906,596
1974	271,516	395,889	225,124	892,529	269,148	1,161,677
1975	352,660	473,951	361,969	1,188,580	293,936	1,482,516
1976	594,784	1,075,885	d	1,670,669	315,935	1,986,604
1977	779,919	1,535,133	d	2,315,052	379,274	2,694,326
1978	953,406	1,452,434	d	2,405,840	330,572	2,736,412
1979	1,424,871	2,063,626	d	3,488,497	721,948	4,210,445
1980	2,411,369	3,181,089	d	5,592,458	1,157,694	6,750,152
1981	3,042,009	4,285,518	d	7,327,527	1,213,333	8,540,860
1982	3,075,361	4,832,346	d	7,907,707	1,321,944	9,229,651
1983	2,486,220	4,253,117	d	6,739,337	1,351,422	8,090,759
1984	2,536,993	4,852,280	d	7,389,273	1,481,561	8,870,834
1985	2,857,907	4,569,758	d	7,427,665	1,210,334	8,637,999
1986	1,805,826	2,143,185	d	3,949,011	728,024	4,677,035
1987	1,281,135	2,508,207	d	3,789,342	914,829	4,704,171
1988[R]	1,090,680	2,309,596	d	3,400,276	761,842	4,162,118
1989	1,053,056	2,395,911	d	3,448,967	871,342	4,320,309

a. Excludes revenues from direct sales by producers to straight electric utilities.

b. No breakdown available prior to 1971.

c. Represents "Revenues" from transfers of gas for electric generation. Such "Revenues" are credits by the electric department to the gas department of combination gas and electric companies.

d. Other now included with Industrial to conform to the definition of industrial services.

R—Revised.

TABLE 7-9

GAS UTILITY INDUSTRY REVENUES, GAS USED FOR ELECTRIC GENERATION, BY STATE, 1989[a]

(Thousands)

Division and State	Industrial Revenue Firm	 Interruptible	 Total	Credits[b]	Total Revenue and Credits
United States	**$1,053,056**	**$2,395,911**	**$3,448,967**	**$871,342**	**$4,320,309**
New England	**93**	**124,701**	**124,794**	**2,675**	**127,469**
Connecticut	72	2,242	2,314	2,541	4,855
Maine	0	0	0	0	0
Massachusetts	21	121,634	121,655	134	121,789
New Hampshire	0	65	65	0	65
Rhode Island	0	578	578	0	578
Vermont	0	182	182	0	182
Middle Atlantic	**5,975**	**62,273**	**68,248**	**497,210**	**565,458**
New Jersey	2,999	45,948	48,947	94,597	143,544
New York	1,002	16,292	17,294	402,613	419,907
Pennsylvania	1,974	33	2,007	0	2,007
East North Central	**8,834**	**6,506**	**15,340**	**4,638**	**19,978**
Illinois	2,363	4,980	7,343	161	7,504
Indiana	1,245	0	1,245	3,651	4,896
Michigan	977	137	1,114	0	1,114
Ohio	1,933	589	2,522	0	2,522
Wisconsin	2,316	800	3,116	826	3,942
West North Central	**7,467**	**7,179**	**14,646**	**5,449**	**20,095**
Iowa	909	2,735	3,644	1,652	5,296
Kansas	2,932	777	3,709	837	4,546
Minnesota	416	1,488	1,904	1,134	3,038
Missouri	970	522	1,492	1,806	3,298
Nebraska	2,240	1,386	3,626	2	3,628
North Dakota	0	55	55	0	55
South Dakota	0	216	216	18	234
South Atlantic	**45**	**480,875**	**480,920**	**43,597**	**524,517**
Delaware	0	1,046	1,046	15,004	16,050
District of Columbia	0	0	0	0	0
Florida	0	445,718	445,718	0	445,718
Georgia	45	2,169	2,214	0	2,214
Maryland	0	23,324	23,324	23,543	46,867
North Carolina	0	131	131	0	131
South Carolina	0	2,183	2,183	5,050	7,233
Virginia	0	0	0	0	0
West Virginia	0	6,304	6,304	0	6,304
East South Central	**455**	**6,295**	**6,750**	**243**	**6,993**
Alabama	390	155	545	0	545
Kentucky	0	0	0	243	243
Mississippi	65	6,063	6,128	0	6,128
Tennessee	0	77	77	0	77
West South Central	**873,600**	**349,743**	**1,223,343**	**276,117**	**1,499,460**
Arkansas	78	0	78	0	78
Louisiana	24,721	28,372	53,093	37,555	90,648
Oklahoma	1,671	1,064	2,735	152,219	154,954
Texas	847,130	320,307	1,167,437	86,343	1,253,780
Mountain	**69,784**	**4,875**	**74,659**	**41,413**	**116,072**
Arizona	63,901	108	64,009	0	64,009
Colorado	2,229	4,190	6,419	11,119	17,538
Idaho	0	0	0	0	0
Montana	0	74	74	371	445
Nevada	1,560	0	1,560	29,923	31,483
New Mexico	1,674	0	1,674	0	1,674
Utah	0	503	503	0	503
Wyoming	420	0	420	0	420
Pacific	**86,803**	**1,353,464**	**1,440,267**	**0**	**1,440,267**
Alaska	34,458	0	34,458	0	34,458
California	51,599	1,353,429	1,405,028	0	1,405,028
Hawaii	0	0	0	0	0
Oregon	0	35	35	0	35
Washington	746	0	746	0	746

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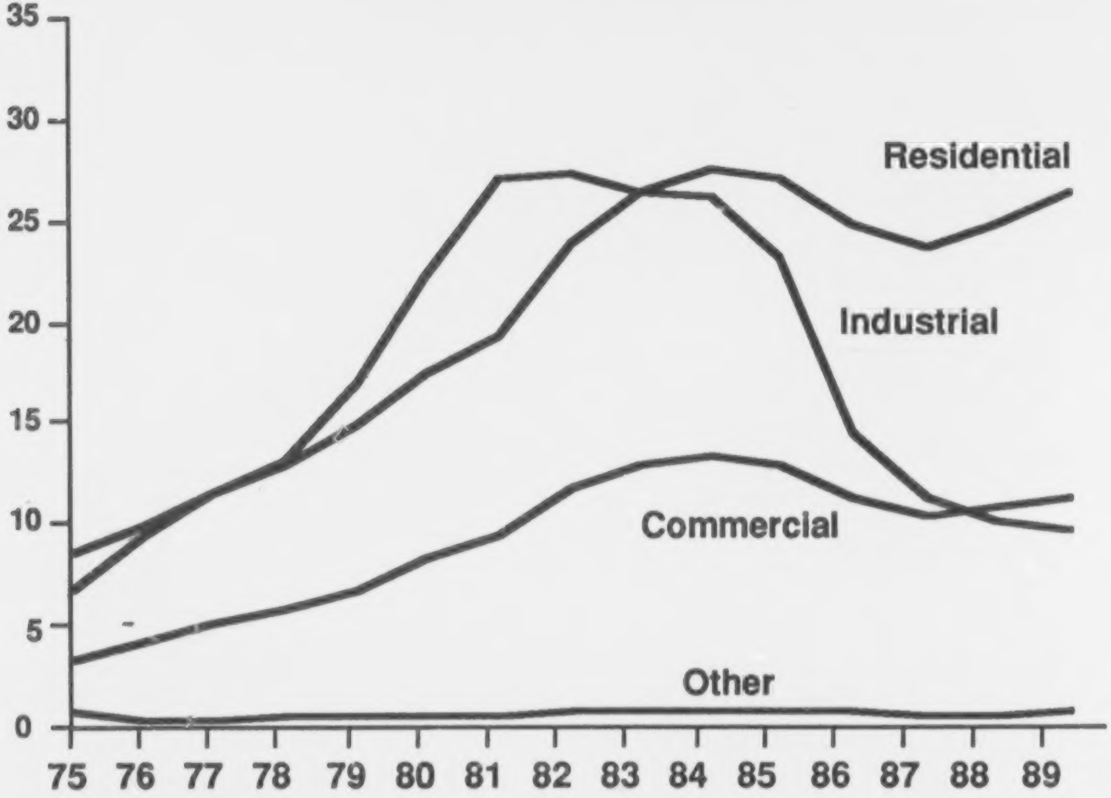
a. Excludes revenues from direct sales by producers to electric utilities.

b. Represents "Revenues" from transfers of gas for electric generation. Such "Revenues" are credits by the electric department to the gas department of combination gas and electric companies.

CHART 7-1

GAS UTILITY INDUSTRY REVENUES BY CLASS OF SERVICE
(BILLIONS OF DOLLARS)



REFERENCE: TABLE 7-1

SECTION 8
CUSTOMERS

	Average Customers	
	1989	% Change 89/88
Gas Utility Industry		
(Thousands)		
Total	53,356.0	+ 1.8
Residential	48,980.5	+ 1.8
Commercial	4,160.6	+ 2.2
Industrial	167.7	+ 0.1
Other	47.7	− 9.4

CUSTOMERS

TABLE 8-1
GAS UTILITY INDUSTRY CUSTOMERS, BY CLASS OF SERVICE, YEARLY AVERAGES, 1967-1989

(Thousands)

Year	Total	Residential	Commercial	Industrial[a]	Other[a]
1967	39,076.5	35,915.1	2,933.6	181.2	46.6
1968	39,930.0	36,691.1	3,003.6	188.1	47.2
1969	40,854.0	37,538.3	3,073.8	192.7	49.2
1970	41,482.1	38,097.0	3,130.9	199.1	55.1
1971	42,241.9	38,788.7	3,199.0	204.7	49.5
1972	42,954.8	39,428.0	3,263.6	209.2	54.1
1973	43,711.2	40,115.5	3,331.4	209.1	55.2
1974	44,267.2	40,626.7	3,392.0	193.8	54.7
1975	44,554.5	40,950.3	3,366.9	183.5	53.8
1976	44,941.4	41,337.6	3,371.5	179.7	52.6
1977	45,274.0	41,682.4	3,371.0	173.3	47.3
1978	45,788.9	42,183.2	3,369.8[b]	189.2[b]	46.7
1979	46,478.3	42,821.3	3,422.8	189.4	44.8
1980	47,222.9	43,489.3	3,497.8	187.2	48.5
1981	47,947.5	44,149.4	3,564.5	187.2	46.5
1982	48,414.9	44,552.3	3,631.1	186.1	45.4
1983	48,799.2	44,893.8	3,676.3	182.2	46.8
1984	49,324.6	45,366.9	3,730.3	180.2	47.2
1985	49,970.7	45,928.7	3,815.7	179.0	47.3
1986	50,704.3	46,583.2	3,891.5[c]	177.6	52.0[c]
1987	51,575.8	47,362.5	3,979.7	180.0	53.6
1988[R]	52,421.5	48,132.6	4,069.2	167.6	52.1
1989	53,356.0	48,980.5	4,160.6	167.7	47.2

a. Prior to 1976, "Other" electric generation customers included in the "Other" class of service. For 1976 and beyond all electric generation customers included in the Industrial category.

b. Reclassification of customers from commercial to industrial.

c. Reclassification of customers from commercial to other.

R–Revised.

TABLE 8-2
GAS UTILITY INDUSTRY AVERAGE CUSTOMERS, BY QUARTER, 1975-1989

(Thousands)

Year and Quarter	Total	Residential	Commercial	Industrial[a]	Other[a]
1975					
First	44,762	41,099	3,406	194	63
Second	44,386	40,806	3,348	181	51
Third	44,233	40,686	3,322	177	48
Fourth	44,839	41,210	3,393	182	54
1980					
First	47,365	43,579	3,549	188	49
Second	47,197	43,452	3,509	187	49
Third	46,879	43,218	3,427	186	48
Fourth	47,450	43,708	3,506	187	49
1981					
First	48,159	44,315	3,609	188	47
Second	47,942	44,140	3,567	188	47
Third	47,573	43,839	3,503	186	45
Fourth	48,116	44,303	3,580	186	47
1982					
First	48,723	44,803	3,687	188	45
Second	48,429	44,558	3,638	187	46
Third	47,990	44,197	3,564	184	45
Fourth	48,517	44,650	3,636	185	46
1983					
First	49,089	45,127	3,731	184	47
Second	48,813	44,900	3,683	183	47
Third	48,348	44,512	3,609	181	46
Fourth	48,946	45,035	3,683	181	47
1984					
First	49,587	45,585	3,773	181	48
Second	49,322	45,363	3,732	180	47
Third	48,896	45,004	3,666	179	47
Fourth	49,494	45,516	3,751	180	47
1985					
First	50,244	46,147	3,868	181	48
Second	49,917	45,876	3,814	180	47
Third	49,567	45,595	3,747	178	47
Fourth	50,158	46,099	3,834	178	47
1986					
First	50,923	46,746	3,944	181	52
Second	50,625	46,508	3,887	178	52
Third	50,327	46,278	3,822	176	51
Fourth	50,943	46,801	3,913	177	52
1987					
First	51,752	47,488	4,028	182	54
Second	51,603	47,374	3,995	181	53
Third	51,163	47,025	3,907	178	53
Fourth	51,786	47,564	3,989	179	54
1988[R]					
First	52,601	48,259	4,119	169	54
Second	52,369	48,078	4,069	168	54
Third	52,035	47,817	4,000	167	51
Fourth	52,680	48,375	4,088	168	49
1989					
First	53,490	49,071	4,204	168	47
Second	53,321	48,941	4,166	168	46
Third	53,030	48,720	4,097	166	47
Fourth	53,583	49,190	4,177	168	48

a. Prior to 1976, "Other" electric generation customers included in the "Other" class of service. For 1976 and beyond all electric generation customers included in the Industrial category.

R–Revised.

TABLE 8-3
GAS UTILITY INDUSTRY AVERAGE CUSTOMERS, BY STATE, 1975-1989[a]

(Thousands)

Division and State	1975	1980	1985	1986	1987	1988R	1989
United States	**44,554.5**	**47,222.9**	**49,970.7**	**50,704.3**	**51,575.8**	**52,421.5**	**53,356.0**
New England	**1,692.5**	**1,734.6**	**1,839.3**	**1,873.2**	**1,922.9**	**1,971.4**	**2,018.4**
Connecticut	392.5	405.0	433.0	441.0	452.2	462.1	471.9
Maine	18.1	15.0	15.2	15.4	15.5	15.7	16.1
Massachusetts	1,055.4	1,079.3	1,130.3	1,149.4	1,172.5	1,197.5	1,216.9
New Hampshire	45.4	50.9	57.9	58.8	67.8	72.0	82.9
Rhode Island	164.6	168.9	184.8	189.3	194.3	201.1	207.3
Vermont	16.6	15.4	18.0	19.3	20.7	23.0	23.3
Middle Atlantic	**8,230.3**	**8,111.4**	**8,362.7**	**8,458.2**	**8,558.1**	**8,673.1**	8,787.6
New Jersey	1,815.1	1,849.1	1,955.2	2,006.8	2,059.2	2,114.8	2,162.5
New York	4,102.5	3,925.5	4,023.5	4,051.3	4,080.6	4,117.6	4,155.8
Pennsylvania	2,312.7	2,336.8	2,384.0	2,400.1	2,418.3	2,440.7	2,469.3
East North Central	**10,253.1**	**10,775.6**	**11,118.9**	**11,261.6**	**11,441.8**	**11,618.7**	**11,816.0**
Illinois	3,134.2	3,304.2	3,355.8	3,386.0	3,429.3	3,467.5	3,506.5
Indiana	1,187.7	1,241.1	1,310.0	1,330.3	1,362.0	1,390.8	1,420.9
Michigan	2,234.5	2,443.3	2,550.9	2,591.8	2,638.2	2,682.5	2,732.6
Ohio	2,757.8	2,746.5	2,794.1	2,837.7	2,859.2	2,900.3	2,950.5
Wisconsin	939.0	1,040.5	1,108.1	1,129.8	1,153.1	1,177.6	1,205.5
West North Central	**3,820.4**	[illegible]	**4,373.4**	**4,424.8**	**4,513.0**	**4,573.4**	**4,641.9**
Iowa	691.6	[illegible]	764.2	766.0	767.9	773.7	781.3
Kansas	669.8	723.0	787.3	794.3	804.6	812.9	825.1
Minnesota	726.8	809.4	909.8	935.2	983.0	1,006.1	1,032.6
Missouri	1,167.1	1,218.4	1,241.0	1,253.7	1,275.8	1,293.6	1,308.6
Nebraska	400.5	442.4	466.3	469.2	473.2	476.0	480.7
North Dakota	71.3	85.7	94.6	95.1	95.6	96.3	97.2
South Dakota	93.1	102.4	110.1	111.3	112.9	114.8	116.4
South Atlantic	**3,861.9**	**4,042.2**	**4,404.6**	**4,515.7**	**4,626.9**	**4,751.2**	**4,869.0**
Delaware	82.8	81.5	85.2	87.1	89.2	91.1	93.7
District of Columbia	155.4	148.6	145.3	145.6	145.4	146.1	146.1
Florida	391.8	433.0	460.5	462.7	469.6	472.3	473.8
Georgia	912.3	1,025.9	1,195.6	1,247.4	1,297.3	1,344.5	1,381.7
Maryland	774.6	773.5	803.0	809.0	815.6	822.6	828.9
North Carolina	338.0	366.7	444.5	466.8	489.4	520.7	550.6
South Carolina	283.1	296.2	319.3	325.9	333.4	347.2	360.2
Virginia	528.4	523.2	563.8	585.4	604.0	625.2	652.6
West Virginia	395.4	393.6	387.3	386.8	382.9	381.5	381.4
East South Central	**2,139.2**	**2,211.6**	**2,285.7**	**2,314.9**	**2,352.1**	**2,404.7**	**2,450.8**
Alabama	637.1	679.0	688.4	697.8	700.1	709.1	710.6
Kentucky	631.3	626.7	643.7	647.9	654.7	665.2	675.6
Mississippi	380.3	396.7	403.7	405.1	405.8	407.8	410.4
Tennessee	490.5	509.3	549.4	564.1	591.5	622.6	654.2
West South Central	**5,092.0**	**5,509.8**	**5,847.6**	**5,869.4**	**5,853.1**	**5,834.3**	**5,856.0**
Arkansas	461.4	489.9	530.9	332.8	541.0	547.7	554.4
Louisiana	935.9	1,002.3	995.8	990.1	982.7	984.8	978.5
Oklahoma	740.5	816.4	902.8	898.4	886.7	[illegible]	890.2
Texas	2,954.2	3,201.2	3,418.1	3,448.1	3,442.8	3,415.1	3,432.9
Mountain	**2,311.6**	**2,700.3**	**3,041.1**	**3,080.5**	**3,140.8**	**3,190.8**	**3,255.1**
Arizona	554.1	579.1	595.4	593.8	600.1	605.5	610.5
Colorado	688.8	850.1	1,011.1	1,032.6	1,049.9	1,063.0	1,077.3
Idaho	107.5	108.6	116.9	119.3	122.1	125.3	129.2
Montana	173.4	182.7	189.1	188.8	190.0	193.3	196.1
Nevada	112.2	168.2	201.2	211.7	225.5	389.6	396.8
New Mexico	278.9	327.6	367.1	375.2	381.9	239.7	257.1
Utah	297.4	361.0	432.8	432.8	447.1	451.5	465.4
Wyoming	99.2	122.9	127.5	126.3	124.1	122.9	122.7
Pacific	**7,153.5**	**8,010.8**	**8,697.9**	**8,906.1**	**9,167.0**	**9,403.9**	**9,661.2**
Alaska	29.1	42.1	72.2	76.3	78.2	79.3	80.4
California	6,495.1	7,286.3	7,888.0	8,071.2	8,302.4	8,503.6	8,721.1
Hawaii	34.8	33.2	32.8	33.1	33.7	34.0	34.2
Oregon	248.2	275.3	303.6	311.6	320.7	332.8	346.7
Washington	346.3	373.9	401.3	413.9	432.0	454.2	478.8

a. Excludes customers purchasing for resale.
R–Revised.

TABLE 8-4
GAS UTILITY INDUSTRY CUSTOMERS, BY STATE AND CLASS OF SERVICE, AVERAGES, 1989

(Thousands)

Division and State	Total	Class of Service				
		Residential	Commercial	Industrial	Electric Generation	Other
United States	**53,356.0**	**48,980.5**	**4,160.6**	**167.2**	**0.5**	**47.2**
New England	**2,018.4**	**1,828.2**	**177.0**	**8.9**	**a**	**4.2**
Connecticut	471.9	425.1	43.8	3.0	a	a
Maine	16.1	12.0	4.0	0.1	0.0	0.0
Massachusetts	1,216.9	1,109.9	99.1	4.5	a	3.4
New Hampshire	82.9	71.7	10.6	0.2	a	0.2
Rhode Island	207.3	189.5	16.7	1.1	a	a
Vermont	23.3	20.0	2.8	a	a	0.5
Middle Atlantic	**8,787.6**	**8,087.9**	**664.0**	**24.1**	**a**	**11.6**
New Jersey	2,162.5	1,945.5	211.2	5.9	a	a
New York	4,155.8	3,853.3	279.9	12.7	a	9.8
Pennsylvania	2,469.3	2,289.1	172.9	5.5	a	1.8
East North Central	**11,816.0**	**10,855.2**	**907.6**	**49.1**	**0.1**	**3.9**
Illinois	3,506.5	3,212.3	274.9	18.5	0.1	0.8
Indiana	1,420.9	1,294.7	120.0	5.7	a	0.5
Michigan	2,732.6	2,531.2	190.8	10.6	a	a
Ohio	2,950.5	2,720.3	220.5	7.1	a	2.6
Wisconsin	1,205.5	1,096.7	101.4	7.2	a	a
West North Central	**4,641.9**	**4,184.3**	**443.7**	**12.2**	**0.2**	**1.5**
Iowa	781.3	697.6	81.7	1.7	0.1	0.3
Kansas	825.1	738.6	82.3	3.9	0.1	0.2
Minnesota	1,052.6	934.6	93.6	4.2	a	0.2
Missouri	1,308.6	1,207.0	100.2	0.7	a	0.6
Nebraska	480.7	418.4	60.9	1.2	a	0.2
North Dakota	97.2	84.6	12.5	0.1	a	0.0
South Dakota	116.4	103.5	12.5	0.4	a	0.0
South Atlantic	**4,869.0**	**4,428.9**	**418.3**	**17.6**	**a**	**4.2**
Delaware	93.7	86.4	7.1	0.2	a	a
District of Columbia	146.1	131.3	14.8	0.0	0.0	0.0
Florida	473.8	431.2	41.9	0.4	a	0.3
Georgia	1,381.7	1,275.0	99.5	4.8	a	2.5
Maryland	828.9	764.1	59.4	5.3	a	a
North Carolina	550.6	485.1	62.6	2.9	a	0.1
South Carolina	360.2	320.5	38.0	1.3	a	0.4
Virginia	652.6	586.6	62.6	2.5	0.0	0.8
West Virginia	381.4	348.7	32.4	0.2	a	0.1
East South Central	**2,450.8**	**2,201.8**	**233.0**	**6.7**	**a**	**9.3**
Alabama	710.6	653.1	52.3	2.1	a	3.1
Kentucky	675.6	610.6	62.3	1.3	0.0	1.4
Mississippi	410.4	368.8	38.5	1.1	a	2.0
Tennessee	654.2	569.3	79.9	2.2	0.0	2.8
West South Central	**5,856.0**	**5,357.7**	**480.6**	**8.5**	**0.1**	**9.2**
Arkansas	554.4	490.8	62.3	1.3	a	a
Louisiana	978.5	914.0	62.2	1.0	a	1.3
Oklahoma	890.2	802.3	84.8	2.5	a	0.6
Texas	3,432.9	3,150.6	271.3	3.7	0.1	7.3
Mountain	**3,255.1**	**2,949.2**	**298.1**	**4.6**	**a**	**3.2**
Arizona	610.5	564.0	45.6	0.3	a	0.6
Colorado	1,077.3	965.1	111.2	0.8	a	0.1
Idaho	129.2	110.7	18.2	0.3	0.0	0.0
Montana	196.1	172.8	22.9	0.5	a	0.1
Nevada	396.8	358.1	19.9	0.1	a	a
New Mexico	257.1	237.1	34.3	1.9	a	2.3
Utah	465.4	432.1	32.8	0.5	a	a
Wyoming	122.7	109.3	13.2	0.2	a	0.1
Pacific	**9,661.2**	**9,087.3**	**538.3**	**35.5**	**0.1**	**0.1**
Alaska	80.4	68.8	11.6	0.0	a	0.0
California	8,721.1	8,265.2	426.1	29.7	0.1	0.1
Hawaii	34.2	30.6	1.8	1.8	0.0	0.0
Oregon	346.7	302.1	44.0	0.6	a	0.0
Washington	478.8	420.6	54.8	3.4	a	a

a. Less than 0.05 thousand.

TABLE 9-5
GAS UTILITY INDUSTRY HOUSEHEATING CUSTOMERS, BY STATE, YEARLY AVERAGES FOR 1985–1989

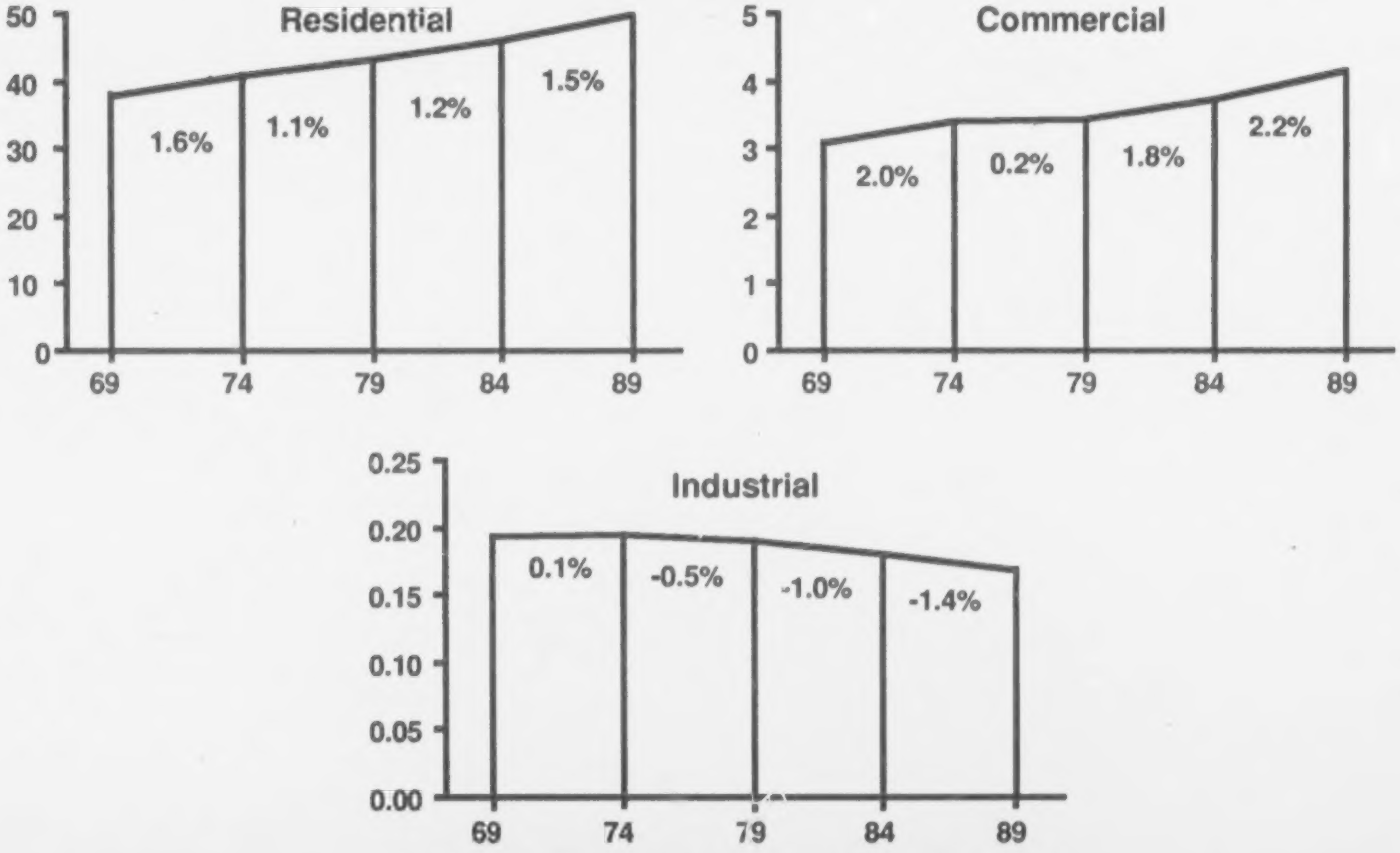
(Thousands)

Division and State	1985	1986	1987	1988	1989 Number	1989 Saturation[a]
United States	**40,781.5**	**41,347.0**	**41,839.3**	**42,338.9**	**43,102.8**	**88.0**
New England	**1,138.3**	**1,193.7**	**1,218.0**	**1,263.0**	**1,302.1**	**71.3**
Connecticut	254.1	264.9	276.4	287.4	289.2	68.3
Maine	9.2	12.1	5.0	5.1	783.9	44.9
Massachusetts	698.1	730.4	741.1	763.2	8.1	70.9
New Hampshire	40.3	41.5	48.3	52.3	60.6	84.7
Rhode Island	123.1	130.1	131.5	137.5	142.4	75.4
Vermont	13.5	14.7	15.7	17.5	17.9	90.6
Middle Atlantic	**5,011.2**	**5,016.9**	**5,168.4**	**5,315.3**	**5,373.3**	**66.5**
New Jersey	1,156.7	1,244.2	1,283.3	1,331.2	1,365.5	70.3
New York	1,951.4	1,835.9	1,931.7	2,003.7	1,996.7	51.9
Pennsylvania	1,903.1	1,936.8	1,953.4	1,980.4	2,011.1	88.0
East North Central	**9,671.3**	**9,817.0**	**9,957.6**	**10,126.3**	**10,302.4**	**95.0**
Illinois	2,758.1	2,796.7	2,816.1	2,848.7	2,868.0	89.4
Indiana	1,158.4	1,155.0	1,205.3	1,232.3	1,250.2	96.7
Michigan	2,302.9	2,331.8	2,372.9	2,420.4	2,492.4	98.6
Ohio	2,534.1	2,567.8	2,593.6	2,630.9	2,673.2	98.4
Wisconsin	917.8	965.7	969.7	994.0	1,018.6	93.0
West North Central	**3,753.0**	**3,894.6**	**3,968.5**	**4,019.9**	**4,075.6**	**97.5**
Iowa	657.9	665.8	662.6	664.5	668.3	95.9
Kansas	649.5	702.2	713.9	724.8	732.6	99.3
Minnesota	783.7	808.9	849.8	869.5	896.3	96.0
Missouri	1,090.1	1,140.3	1,159.8	1,177.6	1,188.8	98.6
Nebraska	397.3	400.6	404.8	406.3	409.2	97.9
North Dakota	78.9	79.6	79.5	80.0	80.0	94.6
South Dakota	95.6	97.2	98.1	97.2	100.4	97.1
South Atlantic	**3,625.9**	**3,706.5**	**3,765.1**	**3,674.4**	**3,464.4**	**78.3**
Delaware	55.4	59.5	60.5	62.7	67.1	75.9
District of Columbia	98.3	100.4	101.1	102.5	106.3	79.2
Florida	370.8	339.2	342.0	356.7	366.3	83.1
Georgia	1,066.7	1,136.2	1,176.0	1,219.4	1,277.5	98.0
Maryland	594.9	608.7	612.0	619.7	641.4	82.1
North Carolina	380.0	393.5	398.9	443.2	332.1	66.6
South Carolina	260.1	269.0	265.7	273.3	c	c
Virginia	450.2	467.8	488.2	472.0	546.5	91.1
West Virginia	349.5	332.2	320.7	124.9	127.3	35.7
East South Central	**2,008.2**	**2,022.1**	**2,060.1**	**2,030.7**	**1,894.0**	**86.1**
Alabama	623.0	626.8	613.5	584.4	622.6	95.4
Kentucky	561.2	562.1	585.4	583.5	590.0	96.7
Mississippi	358.6	358.9	364.5	340.7	140.2	38.0
Tennessee	465.4	474.3	496.7	522.1	541.2	95.1
West South Central	**4,982.8**	**4,965.4**	**4,910.4**	**4,734.5**	**5,047.4**	**94.3**
Arkansas	379.1	380.3	391.0	438.4	445.7	90.9
Louisiana	894.8	880.5	857.1	671.7	872.9	95.6
Oklahoma	782.4	780.0	768.3	779.9	779.8	97.3
Texas	2,926.5	2,924.4	2,894.0	2,844.5	2,949.0	93.7
Mountain	**2,649.2**	**2,693.5**	**2,711.4**	**2,756.6**	**2,719.5**	**92.3**
Arizona	475.0	471.3	467.3	472.7	480.8	84.6
Colorado	903.8	933.4	939.8	951.8	970.9	99.9
Idaho	99.0	99.0	103.9	105.0	109.8	98.3
Montana	167.0	166.7	167.5	159.7	74.1	42.3
Nevada	162.3	170.3	181.2	192.6	308.1	85.4
New Mexico	330.0	337.3	326.4	351.1	237.1	100.0
Utah	398.8	403.3	415.3	418.3	432.1	100.0
Wyoming	113.3	112.2	110.0	105.4	106.6	96.6
Pacific	**7,941.6**	**8,037.3**	**8,079.8**	**8,418.2**	**8,924.1**	**98.3**
Alaska	61.9	65.2	66.9	67.9	68.8	100.0
California	7,288.5	7,401.1	7,403.6	7,711.4	8,182.4	98.8
Hawaii	0.0	0.0	0.0	0.0	0.0	0.0[b]
Oregon	245.2	249.6	255.6	265.6	277.1	91.5
Washington	346.0	321.4	353.7	373.3	395.8	93.9

a. Percentages refer to proportion of residential gas customers using gas for heating.
b. 1987 saturation percentages.
c. Not Available.
Source: A.G.A. *Residential Gas Market Survey: 1989.* Data represent average number of customers developed from number of year-end customers as shown in survey.

CHART 8-1

GAS UTILITY INDUSTRY CUSTOMERS
(MILLIONS)

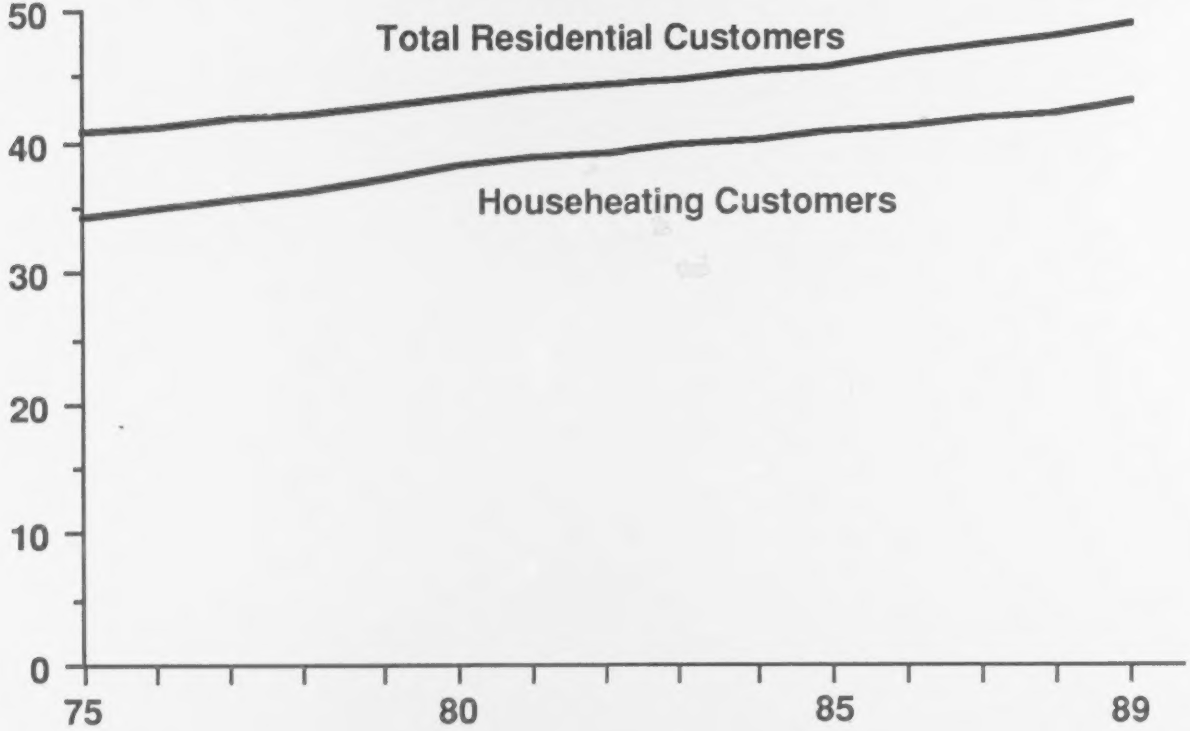


% Equals Compound Annual Growth Rates

REFERENCE: TABLE 8-1

CHART 8-2

GAS UTILITY HOUSEHEATING CUSTOMERS
(MILLIONS)



REFERENCE: TABLE 8-6

SECTION 9
PRICES

	1989	% Change 89/88*
Gas Utility Industry		
($/MMBtu)		
Total	$ 4.50	+ 4.4
Residential	5.45	+ 3.0
Commercial	4.77	+ 3.0
Industrial	2.98	+ 4.6
Other	3.10	− 7.7
Wellhead ($/Mcf)	1.71	+ 1.1
City Gate	3.45	+ 6.5
Electric (Residential)	22.30	+ 1.6
Number 2 Fuel Oil	6.40	+ 4.9

*Percentage change based on unrounded data for both years. Percentage change for wellhead price based on preliminary data for both years.

Prices in this section, unless cited as a source other than A.G.A., were developed using the following methodology. Total revenues for a specific segment and time period are divided by the corresponding total sales for that specific segment and time period. For example, the residential price (average 1989) for the state of New York was obtained by dividing total 1989 residential revenues in New York by the total 1989 residential sales in New York. Likewise, the residential price (average 1989) for the total United States was obtained by dividing total 1989 residential revenues in the United States by the total 1989 residential sales in the United States.

TABLE 9-1
AVERAGE WELLHEAD PRICES OF NATURAL GAS, BY STATE, 1975–1988[a]

(¢/MCF)

Division and State	1975	1980	1984	1985	1986	1987	1988
United States	**44.5¢**	**158.8¢**	**265.5¢**	**251.1¢**	**194.2¢**	**166.5¢**	**169.0¢**
New England	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
Middle Atlantic	**68.0**	**210.2**	**334.8**	**319.4**	**261.2**	**221.6**	**216.8**
New Jersey	0.0	0.0	0.0	0.0	0.0	0.0	0.0
New York	74.0	194.9	400.0	337.0	339.3	200.0	230.0
Pennsylvania	67.5	212.7	325.0	315.6	250.0	225.0	215.0
East North Central	**66.6**	**217.6**	**343.3**	**329.2**	**314.7**	**288.6**	**284.0**
Illinois	70.0	190.0	278.0	277.0	257.1	224.0	218.8
Indiana	39.0	135.0	338.1	250.7	123.3	171.0	157.0
Michigan	63.4	235.5	375.9	360.0	360.0	324.0	317.9
Ohio	70.6	197.7	318.6	307.5	284.1	258.1	255.1
Wisconsin	0.0	0.0	0.0	0.0	0.0	0.0	0.0
West North Central	**17.5**	**79.5**	**160.0**	**135.9**	**123.8**	**118.2**	**141.9**
Iowa	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Kansas	17.2	77.2	148.8	127.0	121.4	115.1	135.6
Minnesota	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Missouri	34.0	0.0	375.0	350.0	375.0	375.0	375.0
Nebraska	54.1	82.9	224.0	301.1	282.1	242.0	266.2
North Dakota	23.0	118.8	226.4	189.6	135.2	130.0	199.7
South Dakota	0.0	b	367.0	251.4	246.3	270.5	195.1
South Atlantic	**50.4**	**274.2**	**335.8**	**368.8**	**361.0**	**357.2**	**290.9**
Delaware	0.0	0.0	0.0	0.0	0.0	0.0	0.0
District of Columbia	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Florida	97.3	173.0	257.0	243.3	120.2	168.1	152.8
Georgia	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Maryland	27.0	45.6	58.3	59.0	65.0	54.5	93.1
North Carolina	0.0	0.0	0.0	0.0	0.0	0.0	0.0
South Carolina	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Virginia	51.5	285.0	300.0	302.0	245.0	208.0	208.0
West Virginia	36.9	300.0	345.0	385.0	390.0	385.0	305.0
East South Central	**59.3**	**223.2**	**321.8**	**316.0**	**231.4**	**227.5**	**232.7**
Alabama	87.0	318.6	373.5	371.1	289.2	296.8	265.3
Kentucky	54.0	89.3[c]	170.0	238.6	188.3	182.4	256.4
Mississippi	49.6	231.7	346.8	316.5	213.1	193.9	186.1
Tennessee	43.0	176.0	350.0	248.0	178.0	131.0	150.0
West South Central	**45.6**	**156.9**	**260.3**	**248.0**	**187.9**	**159.7**	**163.1**
Arkansas	34.7	69.6	254.4	255.0	251.4	229.1	194.1
Louisiana	42.3	160.7[c]	273.2	266.4	221.2	178.0	180.6
Oklahoma	32.0	150.7	271.8	247.3	170.8	146.6	154.5
Texas	51.9	156.5[d]	244.5[d]	232.9	165.4	147.0	150.7
Mountain	**38.2**	**172.6**	**301.1**	**278.6**	**214.9**	**171.7**	**167.7**
Arizona	28.0	b	291.1	b	b	b	b
Colorado	48.0	147.0	343.4	289.9	205.0	176.0	159.0
Idaho	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Montana	43.3	145.4	246.0	239.0	205.0	180.0	170.0
Nevada	0.0	0.0	0.0	0.0	0.0	0.0	0.0
New Mexico	40.5	175.8	271.5	261.8	187.0	166.0	170.1
Utah	48.0	111.7	408.2	351.5	289.6	188.0	239.0
Wyoming	33.7	192.0	331.7	300.6	252.0	176.0	152.7
Pacific	**56.7**	**210.7**	**264.0**	**232.5**	**194.4**	**171.4**	**181.5**
Alaska	30.2	73.2	72.9	73.5	50.1	94.5	126.7
California	70.0	217.0	379.5	336.5	289.4	236.8	239.5
Hawaii	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Oregon	0.0	240.0	278.1	240.2	200.0	144.7	160.0
Washington	0.0	0.0	0.0	0.0	0.0	0.0	0.0

a. Reflects price at first point of transfer, representing sales made by producers. The 1989 U.S. average wellhead price of natural gas is estimated to be 171.0¢.

b. Not available.

c. Value data is for the period beginning June 1, 1980 and ending May 31, 1981.

d. Weighted average value obtained from separate onshore and OCS average value calculations.

Source: U.S. Department of Energy, Energy Information Administration, *Natural Gas Annual*, 1988.

TABLE 9-2
GAS UTILITY INDUSTRY AVERAGE PRICES BY CLASS OF SERVICE, 1967–1989

($/MMBtu)

Year	Total	Residential	Commercial	Industrial[a]	Other
1967	$0.61	$1.00	$0.78	$0.35	$0.36
1968	0.61	1.00	0.77	0.35	0.36
1969	0.62	1.01	0.78	0.36	0.39
1970	0.64	1.06	0.81	0.38	0.41
1971	0.68	1.12	0.85	0.41	0.38
1972	0.73	1.19	0.91	0.45	0.41
1973	0.79	1.25	0.95	0.50	0.44
1974	0.95	1.42	1.11	0.66	0.60
1975	1.29	1.69	1.38	0.99	0.94
1976	1.60	1.98	1.68	1.31	1.36
1977	1.97	2.33	2.07	1.69	1.74
1978	2.18	2.53	2.28	1.90	1.79
1979	2.52	2.92	2.66	2.23	1.94
1980	3.13	3.68	3.34	2.79	2.67
1981	3.65	4.16	3.91	3.29	3.46
1982	4.46	4.97	4.72	4.00	4.30
1983	5.12	5.88	5.51	4.41	4.92
1984	5.13	5.94	5.51	4.36	4.87
1985	5.02	5.95	5.44	4.10	4.79
1986	4.60	5.65	5.04	3.34	4.02
1987	4.32	5.39	4.77	2.88	3.43
1988	4.31	5.29	4.63	2.85	3.36
1989	4.50	5.45	4.77	2.98	3.10

a. Includes Electric Generation.

TABLE 9-3
GAS UTILITY INDUSTRY AVERAGE PRICES, BY STATE, 1975–1989[a]

($/MMBtu)

Division and State	1975	1980	1985	1986	1987	1988^{R}	1989
United States	**$1.29**	**$3.13**	**$5.02**	**$4.60**	**$4.32**	**$4.31**	**$4.50**
New England	**2.87**	**4.96**	**6.57**	**6.52**	**5.52**	**5.62**	**5.72**
Connecticut	2.93	4.99	7.28	6.96	6.22	6.12	6.54
Maine	3.04	5.15	7.44	7.06	6.45	5.80	5.82
Massachusetts	2.91	4.96	6.29	6.32	5.20	5.42	5.36
New Hampshire	2.21	4.25	6.70	6.33	6.03	5.41	6.14
Rhode Island	2.82	5.00	6.78	6.91	5.73	5.82	6.36
Vermont	2.06	5.66	5.71	5.14	5.01	4.61	4.69
Middle Atlantic	**1.97**	**3.98**	**6.31**	**6.09**	**5.59**	**5.40**	**5.84**
New Jersey	2.31	4.36	6.41	6.04	5.45	5.23	5.52
New York	2.14	4.43	6.57	6.51	5.96	5.83	6.35
Pennsylvania	1.68	3.45	5.94	5.63	5.25	5.02	5.47
East North Central	**1.34**	**3.17**	**5.27**	**4.92**	**4.73**	**4.65**	**4.74**
Illinois	1.35	3.26	5.05	4.54	4.37	4.13	4.40
Indiana	1.16	2.82	4.72	4.67	4.46	4.64	4.95
Michigan	1.43	3.06	5.66	5.19	5.01	4.92	4.77
Ohio	1.35	3.24	5.47	5.25	4.91	4.85	4.96
Wisconsin	1.31	3.42	5.36	5.18	5.19	5.16	4.91
West North Central	**1.00**	**2.68**	**4.61**	**4.21**	**3.91**	**4.05**	**4.10**
Iowa	1.04	2.81	4.61	4.20	3.80	4.04	3.97
Kansas	0.69	2.24	3.77	3.45	3.64	3.63	3.84
Minnesota	1.19	2.81	5.09	4.55	3.78	4.06	4.06
Missouri	1.18	3.04	4.98	4.56	4.25	4.37	4.46
Nebraska	0.90	2.34	4.33	4.01	3.79	3.90	3.95
North Dakota	1.26	3.57	5.28	4.93	4.89	4.47	4.20
South Dakota	1.05	2.81	5.07	4.57	4.18	4.20	4.14
South Atlantic	**1.39**	**3.28**	**5.29**	**4.75**	**4.62**	**4.44**	**4.60**
Delaware	1.73	3.46	5.53	5.18	4.67	4.46	4.83
District of Columbia	2.21	4.38	7.35	6.84	6.13	5.92	6.30
Florida	1.15	2.63	3.91	2.92	3.39	2.92	3.12
Georgia	1.12	3.17	5.31	5.15	5.08	5.16	5.15
Maryland	1.97	3.87	6.59	6.16	5.58	5.25	5.50
North Carolina	1.58	3.46	5.35	4.67	4.74	4.57	4.78
South Carolina	1.10	3.16	5.08	4.52	4.45	4.43	4.49
Virginia	1.78	3.58	5.93	5.36	4.93	4.74	5.44
West Virginia	1.24	3.27	5.65	5.55	4.66	4.62	4.76
East South Central	**1.03**	**2.85**	**4.55**	**4.38**	**4.25**	**4.16**	**4.18**
Alabama	1.04	3.11	4.81	4.63	4.70	4.52	4.56
Kentucky	1.11	2.90	4.90	4.56	4.24	4.16	4.39
Mississippi	0.95	2.71	3.93	4.01	4.29	4.19	3.78
Tennessee	1.00	2.69	4.51	4.24	3.84	3.83	3.96
West South Central	**0.99**	**2.53**	**3.89**	**3.36**	**2.95**	**3.08**	**3.27**
Arkansas	0.80	1.97	3.92	3.68	4.06	4.17	4.31
Louisiana	0.85	2.36	3.92	3.77	3.13	3.53	3.45
Oklahoma	0.79	2.05	3.73	3.94	3.58	3.34	3.16
Texas	1.10	2.72	3.91	3.23	2.78	2.90	3.18
Mountain	**0.99**	**2.84**	**4.66**	**4.47**	**4.34**	**4.36**	**4.28**
Arizona	1.19	2.82	4.81	4.74	4.74	5.26	3.90
Colorado	0.90	2.95	4.74	4.60	4.35	4.07	4.34
Idaho	1.48	4.03	5.19	5.10	4.36	4.77	4.53
Montana	1.03	3.03	4.64	4.17	3.93	3.81	3.73
Nevada	1.30	3.17	5.46	5.00	4.61	4.96	4.84
New Mexico	0.88	2.66	4.70	4.48	4.04	4.37	4.95
Utah	0.85	2.34	4.00	3.93	4.23	4.16	4.30
Wyoming	0.70	2.45	4.28	4.19	4.36	4.11	4.18
Pacific	**1.31**	**3.65**	**5.08**	**4.23**	**4.08**	**4.12**	**4.32**
Alaska	0.81	1.20	2.24	2.53	2.51	2.76	3.00
California	1.26	3.57	5.09	4.18	4.10	4.10	4.36
Hawaii	6.78	13.01	14.20	12.04	11.90	11.62	11.48
Oregon	1.80	4.64	5.61	5.06	4.63	5.44	5.06
Washington	1.55	4.33	5.38	4.71	3.81	4.02	3.85

a. Excludes sales for resale and revenues from sales for resale.
R–Revised.

TABLE 9-4
GAS UTILITY INDUSTRY RESALE PRICES, BY STATE, 1975-1989[a]

($/MMBtu)

Division and State	1975	1980	1985	1986	1987	1988R	1989
United States	**$0.80**	**$2.41**	**$3.82**	**$3.58**	**$3.31**	**$3.24**	**$3.44**
New England	**1.41**	**2.84**	**4.10**	**3.50**	**3.05**	**3.34**	**3.94**
Connecticut	1.51	2.91	4.11	3.56	3.14	3.41	3.98
Maine	b	b	b	b	b	b	b
Massachusetts	1.35	2.81	4.09	3.51	3.05	3.32	3.95
New Hampshire	0.99	2.59	4.38	3.53	2.90	3.13	3.79
Rhode Island	1.59	2.94	4.03	3.36	3.06	3.35	3.78
Vermont	0.67	b	b	b	b	b	b
Middle Atlantic	**0.93**	**2.49**	**3.95**	**3.65**	**3.25**	**3.29**	**3.82**
New Jersey	0.99	2.45	3.71	3.23	2.91	2.96	3.40
New York	0.93	2.59	4.02	3.97	3.42	3.58	4.07
Pennsylvania	0.90	2.45	4.04	3.69	3.39	3.34	3.95
East North Central	**0.79**	**2.41**	**3.91**	**3.99**	**4.24**	**3.71**	**3.61**
Illinois	0.68	2.12	3.51	3.55	3.98	3.29	3.44
Indiana	0.72	2.14	4.02	3.67	3.55	3.46	3.38
Michigan	0.87	2.93	4.46	6.21	7.83	4.00	3.71
Ohio	0.84	2.39	4.13	4.27	4.10	3.94	3.52
Wisconsin	0.95	3.07	4.11	3.98	4.56	4.75	4.65
West North Central	**0.70**	**2.11**	**3.64**	**3.26**	**3.03**	**3.14**	**3.26**
Iowa	0.78	2.48	3.82	3.66	3.58	3.48	3.54
Kansas	0.53	1.78	2.98	2.65	2.86	2.88	3.11
Minnesota	0.75	2.32	3.93	3.37	2.86	3.19	3.24
Missouri	0.69	1.86	3.43	3.03	2.93	2.94	3.18
Nebraska	0.69	2.02	4.00	3.58	3.16	3.32	3.34
North Dakota	1.40	4.55	4.16	3.86	3.81	3.51	3.51
South Dakota	0.72	2.11	4.07	3.62	3.27	3.34	3.29
South Atlantic	**0.80**	**2.44**	**4.35**	**3.94**	**3.95**	**3.70**	**3.82**
Delaware	0.98	2.41	4.59	4.17	4.34	4.01	3.44
District of Columbia	b	b	b	b	b	b	b
Florida	0.66	2.31	3.31	2.59	2.71	2.51	2.61
Georgia	0.69	2.30	4.24	4.11	4.62	4.32	4.60
Maryland	1.05	2.61	4.40	4.18	3.83	4.08	3.39
North Carolina	0.81	2.66	4.17	4.18	3.49	3.51	4.22
South Carolina	0.68	2.32	4.11	3.92	3.88	3.66	4.95
Virginia	0.98	2.60	4.65	3.97	3.82	3.69	3.80
West Virginia	0.76	2.35	5.97	4.92	7.32	4.14	4.03
East South Central	**0.64**	**2.15**	**3.87**	**3.50**	**3.26**	**3.12**	**3.42**
Alabama	0.64	2.25	3.99	3.87	4.35	3.84	4.08
Kentucky	0.71	2.23	3.86	3.73	3.43	3.20	3.20
Mississippi	0.62	2.19	3.86	3.91	4.15	3.80	3.69
Tennessee	0.61	2.04	3.80	3.16	2.69	2.78	3.21
West South Central	**0.63**	**2.15**	**3.46**	**3.21**	**2.51**	**2.46**	**2.99**
Arkansas	0.58	2.17	2.91	2.66	1.78	2.24	2.28
Louisiana	0.62	2.09	3.60	4.19	2.88	2.77	3.70
Oklahoma	0.62	2.05	3.10	2.66	1.76	2.00	1.99
Texas	0.64	2.21	3.45	2.90	2.50	2.41	2.78
Mountain	**0.71**	**2.37**	**3.54**	**3.27**	**3.14**	**3.38**	**3.56**
Arizona	0.70	2.26	3.47	3.10	3.11	3.44	3.95
Colorado	0.58	2.51	3.63	3.41	3.26	3.54	3.41
Idaho	1.14	3.43	3.68	3.08	2.77	3.43	4.57
Montana	0.95	3.42	4.12	3.91	3.64	3.49	3.44
Nevada	1.28	3.64	4.96	4.10	3.64	3.64	3.65
New Mexico	0.48	1.91	2.98	2.95	2.75	2.74	2.14
Utah	0.42	1.83	3.66	3.53	3.18	3.01	3.31
Wyoming	0.97	3.03	4.35	4.78	2.74	2.60	2.62
Pacific	**1.10**	**3.39**	**3.56**	**2.83**	**2.35**	**2.36**	**2.45**
Alaska	b	0.83	b	b	b	b	b
California	0.85	2.75	3.95	3.20	2.66	2.76	3.35
Hawaii	b	b	b	b	b	b	b
Oregon	1.27	4.29	3.39	2.60	2.14	2.16	2.25
Washington	1.11	3.40	3.60	3.09	2.83	3.08	2.58

a. Resale prices approximate city-gate prices.
b. No sales reported.
R—Revised

TABLE 9-5
AVERAGE GAS PRICES OF WELLHEAD, CITY GATE, AND END-USER LEVEL
1967–1989

Year	Wellhead ($/Mcf[b])	City Gate[a] ($/MMBtu[b])	Cost to the Ultimate Customer ($/MMBtu[b])
1967	$0.160	$0.330	$0.612
1968	0.164	0.328	0.607
1969	0.167	0.334	0.616
1970	0.171	0.354	0.641
1971	0.182	0.389	0.681
1972	0.186	0.429	0.730
1973	0.216	0.463	0.788
1974	0.304	0.573	0.953
1975	0.445	0.798	1.285
1976	0.580	0.984	1.599
1977	0.790	1.308	1.974
1978	0.905	1.466	2.184
1979	1.178	1.812	2.522
1980	1.588	2.414	3.134
1981	1.982	2.885	3.650
1982	2.457	3.598	4.456
1983	2.593	4.041	5.121
1984	2.655	3.890	5.128
1985	2.511	3.821	5.017
1986	1.942	3.579	4.602
1987	1.665	3.305	4.315
1988[R]	1.690	3.243	4.312
1989	1.710	3.445	4.501

a. Resale prices approximate city-gate prices. See Table 9-4.
b. Mcf and MMBtu prices are roughly comparable. On a MMBtu basis, the wellhead price would be slightly less.
R–Revised.
Source: For wellhead price, *Monthly Energy Review.*

TABLE 9-6
GAS UTILITY INDUSTRY AVERAGE PRICES, BY STATE AND CLASS OF SERVICE, 1989

($/MMBtu)

		Class of Service				
Division and State	Total	Residential	Commercial	Industrial	Electric Generation	Other
United States	**$4.50**	**$5.45**	**$4.77**	**$3.17**	**$2.69**	**$3.10**
New England	**5.72**	**7.17**	**5.81**	**4.04**	**2.50**	**4.71**
Connecticut	6.54	7.99	5.91	4.36	3.14	7.70
Maine	5.82	7.18	6.31	4.57	a	a
Massachusetts	5.36	6.98	5.69	3.81	2.49	4.53
New Hampshire	6.14	6.81	6.14	4.01	3.09	6.13
Rhode Island	6.36	6.78	6.13	5.03	2.66	3.97
Vermont	4.69	5.86	5.53	3.07	2.68	5.02
Middle Atlantic	**5.84**	**6.46**	**5.54**	**4.02**	**2.80**	**5.07**
New Jersey	5.52	6.38	5.19	3.94	2.82	5.00
New York	6.35	6.91	5.91	4.47	2.66	5.10
Pennsylvania	5.47	5.95	5.48	3.77	4.03	4.99
East North Central	**4.74**	**4.98**	**4.52**	**3.88**	**3.44**	**3.96**
Illinois	4.40	4.61	4.25	3.54	3.53	4.62
Indiana	4.95	5.41	4.73	3.85	3.72	4.13
Michigan	4.77	4.87	4.60	4.29	3.58	4.30
Ohio	4.96	5.15	4.79	4.14	3.73	4.01
Wisconsin	4.91	5.61	4.25	3.97	2.93	2.77
West North Central	**4.10**	**4.55**	**3.99**	**2.95**	**2.61**	**2.90**
Iowa	3.97	4.67	3.90	2.73	2.75	2.98
Kansas	3.84	4.15	3.71	2.87	2.88	2.62
Minnesota	4.06	4.56	4.09	2.91	1.80	3.49
Missouri	4.46	4.75	4.19	3.63	3.46	2.73
Nebraska	3.95	4.43	3.89	2.90	2.60	2.66
North Dakota	4.20	4.45	4.02	2.88	b	b
South Dakota	4.14	4.65	3.96	3.00	2.16	a
South Atlantic	**4.60**	**6.25**	**5.10**	**3.51**	**2.50**	**4.77**
Delaware	4.83	6.21	5.22	3.61	2.68	2.79
District of Columbia	6.30	7.51	5.52	a	a	a
Florida	3.12	7.15	4.77	3.11	2.49	4.31
Georgia	5.15	6.07	5.22	3.44	2.99	5.27
Maryland	5.50	6.25	5.17	4.77	2.55	3.13
North Carolina	4.78	6.41	5.18	3.54	3.54	2.17
South Carolina	4.49	6.65	5.61	3.36	3.54	5.00
Virginia	5.44	6.52	4.86	3.91	a	4.59
West Virginia	4.76	5.22	4.73	2.91	2.60	5.41
East South Central	**4.18**	**5.13**	**4.40**	**3.04**	**1.36**	**3.71**
Alabama	4.56	6.11	4.64	2.92	3.09	4.79
Kentucky	4.39	4.63	4.33	3.71	a	3.89
Mississippi	3.78	5.48	4.50	2.60	1.28	4.07
Tennessee	3.96	4.69	4.29	3.21	2.56	2.93
West South Central	**3.27**	**5.21**	**4.50**	**2.27**	**2.45**	**2.13**
Arkansas	4.31	4.85	4.39	3.18	b	3.05
Louisiana	3.45	5.85	5.40	2.47	1.85	2.10
Oklahoma	3.16	4.41	3.90	1.92	2.51	2.85
Texas	3.18	5.38	4.53	2.27	2.49	2.15
Mountain	**4.28**	**4.99**	**4.25**	**2.93**	**1.96**	**3.73**
Arizona	3.90	6.75	5.04	2.44	1.89	3.76
Colorado	4.34	4.64	4.09	3.71	2.21	3.61
Idaho	4.53	4.93	4.13	4.06	a	a
Montana	3.73	3.92	3.93	2.86	4.11	3.82
Nevada	4.95	5.58	4.31	4.60	3.45	3.94
New Mexico	4.84	5.44	4.46	3.63	3.66	3.69
Utah	4.30	4.74	3.86	3.06	3.12	b
Wyoming	4.18	4.55	4.16	2.92	2.65	3.26
Pacific	**4.32**	**5.42**	**5.06**	**3.30**	**3.12**	**3.83**
Alaska	3.00	3.67	3.13	a	2.30	a
California	4.36	5.43	5.31	3.43	3.15	3.87
Hawaii	11.48	15.41	9.65	12.14	a	a
Oregon	5.06	6.01	4.84	3.31	b	a
Wasington	3.85	5.33	4.22	2.54	1.68	3.64

a. No sales reported.
b. Less than 0.05 trillion Btu in sales.

TABLE 9-7
AVERAGE RESIDENTIAL GAS PRICES, BY STATE, 1975–1989

($/MMBtu)

Division and State	1975	1980	1985	1986	1987	1988	1989
United States	**$1.69**	**$3.61**	**$5.95**	**$5.65**	**$5.39**	**$5.29**	**$5.45**
New England	**3.22**	**5.48**	**7.90**	**7.57**	**6.83**	**6.79**	**7.17**
Connecticut	3.27	5.73	8.89	8.61	7.94	7.63	7.99
Maine	4.25	6.35	8.80	8.26	7.74	7.25	7.18
Massachusetts	3.20	5.41	7.61	7.22	6.44	6.58	6.98
New Hampshire	2.46	4.55	7.26	6.86	6.63	6.00	6.81
Rhode Island	3.16	5.48	7.80	7.53	6.76	6.47	6.78
Vermont	2.80	6.43	6.53	6.51	6.39	5.83	5.86
Middle Atlantic	**2.26**	**4.45**	**7.17**	**6.90**	**6.36**	**6.06**	**6.46**
New Jersey	2.59	4.89	7.28	7.04	6.41	6.05	6.38
New York	2.43	4.86	7.62	7.36	6.69	6.41	6.91
Pennsylvania	1.90	3.76	6.52	6.22	5.88	5.61	5.95
East North Central	**1.56**	**3.37**	**5.74**	**5.34**	**5.04**	**4.90**	**4.98**
Illinois	1.58	3.46	5.37	4.88	4.63	4.36	4.61
Indiana	1.45	3.12	5.49	5.39	4.98	5.04	5.41
Michigan	1.60	3.15	6.03	5.46	5.20	5.04	4.87
Ohio	1.51	3.45	5.82	5.53	5.13	5.07	5.15
Wisconsin	1.71	3.80	6.39	6.13	5.95	5.85	5.61
West North Central	**1.37**	**3.08**	**5.24**	**4.85**	**4.51**	**4.56**	**4.55**
Iowa	1.41	3.20	5.32	5.02	4.65	4.73	4.67
Kansas	0.97	2.37	4.12	3.87	4.06	4.00	4.15
Minnesota	1.59	3.24	5.75	5.20	4.53	4.65	4.56
Missouri	1.45	3.37	5.47	5.05	4.66	4.72	4.75
Nebraska	1.26	2.71	4.97	4.53	4.31	4.43	4.43
North Dakota	1.50	3.83	5.59	5.28	5.47	4.86	4.45
South Dakota	1.40	3.11	5.62	5.14	4.73	4.76	4.65
South Atlantic	**2.02**	**4.15**	**6.71**	**6.51**	**6.27**	**5.96**	**6.25**
Delaware	2.34	4.15	6.80	6.85	6.15	5.83	6.21
District of Columbia	2.40	4.56	7.96	7.55	7.16	6.90	7.51
Florida	2.78	4.85	7.33	7.08	7.42	6.78	7.15
Georgia	1.75	4.06	6.44	6.46	6.30	6.21	6.07
Maryland	2.31	4.40	7.14	6.66	6.30	5.80	6.25
North Carolina	2.02	4.00	6.41	6.40	6.53	6.02	6.41
South Carolina	2.08	4.13	6.53	6.44	6.47	6.47	6.65
Virginia	2.29	4.24	7.07	6.47	5.90	5.71	6.52
West Virginia	1.47	3.62	5.97	5.97	5.61	5.03	5.22
East South Central	**1.43**	**3.37**	**5.47**	**5.31**	**5.25**	**5.14**	**5.13**
Alabama	1.72	4.10	6.24	6.28	6.44	6.37	6.11
Kentucky	1.30	3.08	5.27	4.83	4.49	4.42	4.63
Mississippi	1.41	3.39	5.34	5.48	5.86	5.78	5.48
Tennessee	1.33	2.94	4.96	4.83	4.61	4.49	4.69
West South Central	**1.35**	**3.00**	**5.23**	**5.03**	**4.93**	**5.03**	**5.21**
Arkansas	1.12	2.36	4.35	4.27	4.55	4.79	4.85
Louisiana	1.32	3.07	5.48	5.50	5.41	5.48	5.85
Oklahoma	1.15	2.38	4.45	4.79	4.53	4.36	4.41
Texas	1.47	3.30	5.59	5.12	4.98	5.18	5.38
Mountain	**1.34**	**3.23**	**5.29**	**5.04**	**4.83**	**4.88**	**4.99**
Arizona	1.83	3.74	6.66	6.19	5.87	6.76	6.75
Colorado	1.16	3.21	5.11	4.99	4.67	4.35	4.64
Idaho	2.25	4.94	6.56	6.00	5.45	5.43	4.93
Montana	1.18	2.88	4.51	4.21	4.08	4.01	3.92
Nevada	1.81	3.97	6.55	5.89	5.23	5.89	5.58
New Mexico	1.37	3.21	5.69	5.30	4.68	4.92	5.44
Utah	1.12	2.68	4.52	4.38	4.62	4.74	4.74
Wyoming	0.99	2.94	4.97	4.86	4.74	4.47	4.55
Pacific	**1.58**	**3.51**	**5.56**	**5.05**	**5.16**	**5.29**	**5.42**
Alaska	1.48	1.73	2.85	3.27	3.25	3.50	3.67
California	1.52	3.38	5.51	4.97	5.14	5.27	5.43
Hawaii	7.97	14.58	17.69	15.80	15.72	15.50	15.41
Oregon	2.41	5.36	6.73	6.49	6.46	6.57	6.01
Washington	2.12	4.91	6.44	5.91	5.24	5.33	5.33

TABLE 9-6
AVERAGE ANNUAL RESIDENTIAL GAS BILLS, BY STATE, 1975-1989

($/Customer)

Division and State	1975	1980	1985	1986	1987	1988^R	1989
United States	**$206**	**$401**	**$585**	**$531**	**$499**	**$516**	**$534**
New England	**274**	**493**	**702**	**694**	**637**	**646**	**699**
Connecticut	285	505	762	790	740	742	781
Maine	165	274	390	381	355	345	388
Massachusetts	276	494	684	662	600	620	680
New Hampshire	234	444	688	684	635	572	672
Rhode Island	266	474	696	691	641	630	659
Vermont	261	661	687	696	663	614	683
Middle Atlantic	**231**	**458**	**679**	**674**	**619**	**622**	**671**
New Jersey	229	439	640	638	598	593	642
New York	217	441	663	662	599	603	655
Pennsylvania	257	501	736	723	671	680	722
East North Central	**257**	**535**	**787**	**712**	**630**	**672**	**688**
Illinois	266	562	792	707	612	636	669
Indiana	220	449	673	639	558	616	659
Michigan	268	545	879	764	680	728	721
Ohio	259	547	766	721	656	690	706
Wisconsin	238	497	744	666	590	668	657
West North Central	**209**	**405**	**615**	**529**	**447**	**508**	**513**
Iowa	215	408	619	551	453	531	534
Kansas	145	301	457	383	390	417	427
Minnesota	255	450	743	633	468	569	580
Missouri	215	449	617	540	469	510	509
Nebraska	195	350	588	484	418	477	487
North Dakota	245	489	696	593	528	561	543
South Dakota	203	365	651	549	438	503	519
South Atlantic	**194**	**386**	**524**	**521**	**516**	**503**	**506**
Delaware	219	388	552	599	540	540	564
District of Columbia	230	472	719	743	693	692	732
Florida	107	194	238	233	251	243	236
Georgia	181	393	526	502	519	515	472
Maryland	225	425	607	609	561	541	575
North Carolina	188	388	491	499	554	514	521
South Carolina	151	319	380	391	440	441	426
Virginia	230	423	596	580	547	543	612
West Virginia	219	473	650	681	623	588	587
East South Central	**153**	**345**	**465**	**440**	**445**	**456**	**442**
Alabama	157	356	460	448	481	487	439
Kentucky	177	401	549	500	460	487	505
Mississippi	122	291	393	379	429	430	395
Tennessee	140	299	423	404	395	400	409
West South Central	**130**	**253**	**392**	**341**	**358**	**372**	**390**
Arkansas	128	226	379	340	387	429	434
Louisiana	108	236	362	343	361	365	374
Oklahoma	138	246	424	405	383	399	404
Texas	135	265	394	325	346	357	385
Mountain	**175**	**336**	**498**	**419**	**406**	**424**	**431**
Arizona	141	221	363	289	311	351	331
Colorado	171	385	509	434	429	427	438
Idaho	249	393	534	457	380	389	390
Montana	203	363	558	449	406	433	463
Nevada	204	347	480	371	355	407	394
New Mexico	173	318	480	418	399	419	435
Utah	201	373	610	535	500	519	540
Wyoming	160	378	610	515	461	486	509
Pacific	**174**	**286**	**420**	**329**	**346**	**346**	**360**
Alaska	328	375	586	598	584	634	714
California	166	272	405	313	337	333	347
Hawaii	232	364	360	310	308	296	297
Oregon	258	428	562	465	437	488	460
Washington	259	469	605	527	429	468	497

R–Revised.

TABLE 9-9
AVERAGE RESIDENTIAL CONSUMPTION AND COSTS
1967–1989[a]

	Gas				
Year	Consumption (MMBtu/ Customer)	Annual Bill ($/Customer)	Price ($/MMBtu)	Electric Price ($/MMBtu)	Number 2 Fuel Oil Price ($/MMBtu)
1967	121.5	$122.03	$1.00	$6.36	$1.21
1968	124.1	124.48	1.00	6.21	1.25
1969	128.4	130.08	1.01	6.13	1.28
1970	129.2	136.69	1.06	6.15	1.33
1971	129.9	145.28	1.12	6.42	1.41
1972	130.4	154.56	1.19	6.71	1.42
1973	124.5	155.73	1.25	6.98	1.64
1974	119.6	169.82	1.42	8.29	2.60
1975	121.9	206.24	1.69	9.40	2.81
1976	121.3	240.48	1.98	10.11	3.01
1977	118.7	276.87	2.33	11.08	3.42
1978	121.0	307.40	2.53	11.81	3.66
1979	118.6	346.39	2.92	12.69	5.24
1980	111.0	400.84	3.61	14.45	7.21
1981	104.4	434.43	4.16	17.00	8.95
1982	107.1	531.96	4.97	18.90	8.70
1983	99.1	583.00	5.88	20.01	7.92
1984	102.0	605.80	5.94	20.93	8.08
1985	98.3	584.90	5.95	21.69	7.78
1986	94.0	531.51	5.65	21.86	6.02
1987	92.6	498.75	5.39	21.83	6.13
1988	97.5	515.56	5.29	21.95	6.10
1989	98.0	534.33	5.45	22.30[P]	6.40

a. Prices given are for total usage.

P–Preliminary.

Sources: For electric price, Edison Electric Institute *Statistical Yearbook*. For oil price, Bureau of Labor Statistics.

TABLE 8-6
GAS UTILITY INDUSTRY HOUSEHEATING CUSTOMERS AND HEATING SATURATIONS[a] BY CENSUS DIVISION, 1975–1989 YEARLY AVERAGES

(Thousands)

	1975		1980		1984		1985	
Census Division	Customers	Percent	Customers	Percent	Customers	Percent	Customers	Percent
United States	**34,372**	**84.1**	**38,184**	**87.8**	**40,037**	**88.3**	**40,781**	**88.8**
New England	857	54.8	1,010	63.1	1,113	67.1	1,138	67.6
Middle Atlantic	4,128	54.1	4,522	60.0	4,910	63.9	5,011	64.8
East North Central	8,432	89.4	9,169	92.1	9,584	94.2	9,671	94.4
West North Central	3,261	94.5	3,592	96.3	3,720	95.3	3,753	95.3
South Atlantic	2,970	84.2	3,315	89.4	3,588	90.8	3,626	90.1
East South Central	1,868	96.5	1,967	98.5	2,002	97.8	2,008	97.6
West South Central	4,496	97.1	4,999	99.5	5,107	96.2	4,983	93.4
Mountain	2,040	98.0	2,407	98.2	2,661	99.3	2,649	96.2
Pacific	6,320	94.6	7,203	95.8	7,352	92.2	7,942	97.4

	1986		1987		1988		1989	
Census Division	Customers	Percent	Customers	Percent	Customers	Percent	Customers	Percent
United States	**41,347**	**88.8**	**41,839**	**88.3**	**42,339**	**88.0**	**43,103**	**88.0**
New England	1,194	69.6	1,218	69.5	1,263	70.5	1,302	71.3
Middle Atlantic	5,017	64.2	5,168	65.5	5,315	66.5	5,373	66.5
East North Central	9,817	94.7	9,958	94.6	10,126	94.8	10,303	95.0
West North Central	3,895	97.7	3,969	97.6	4,020	97.5	4,076	97.5
South Atlantic	3,707	89.9	3,765	89.3	3,674	85.0	3,464	78.3
East South Central	2,022	97.1	2,060	97.5	2,031	94.0	1,894	86.1
West South Central	4,965	92.7	4,910	92.0	4,735	89.0	5,047	94.3
Mountain	2,694	96.2	2,711	95.4	2,757	95.5	2,720	92.3
Pacific	8,037	96.5	8,419	95.2	8,419	95.2	8,924	98.3

[a] Percentages refer to proportion of total residential customers, within specified areas, using gas for heating.

Source: *A.G.A. Gas Househeating Survey.* Data represent average number of customers developed from number of year-end customers as shown in survey.

TABLE 9-10
AVERAGE RESIDENTIAL GAS PRICES BY CENSUS DIVISION HEATING SEASON—NOVEMBER THRU MARCH

($/MMBtu)

	1983–84	1984–85	1985–86	1986–87	1987–88	1988–89	1989–90[a]
Total U.S.	$5.71	$5.81	$5.54	$5.16	$4.98	$5.36	$5.32
NE	7.47	7.70	7.41	6.69	6.50	6.88	7.27
MA	6.65	6.87	6.75	6.18	5.71	6.06	6.36
ENC	5.47	5.59	5.27	4.84	4.69	4.92	4.77
WNC	5.27	5.18	4.82	4.19	4.30	4.35	4.64
SA	6.46	6.46	6.35	6.21	5.58	5.93	6.11
ESC	5.22	5.34	5.08	4.89	4.89	4.86	4.94
WSC	5.00	4.99	4.83	4.48	4.53	4.85	5.00
M	5.21	5.20	5.01	4.61	4.52	4.57	4.72
P	5.46	5.68	5.54	4.97	5.11	5.30	5.32

a. Data used for 1990 was based on the *Quarterly Report of Gas Industry Operations.*

TABLE 9-11
AVERAGE GAS CONSUMPTION BY HOUSEHEATING CUSTOMERS BY CENSUS DIVISION HEATING SEASON—NOVEMBER THRU MARCH

(MMBtu/Customer)

	1983–84	1984–85	1985–86	1986–87	1987–88	1988–89	1989–90[a]
Total U.S.	78.2	75.3	72.9	70.1	73.8	70.9	71.6
NE	85.2	80.6	84.8	84.2	86.5	86.3	86.0
MA	101.7	95.4	97.2	97.4	93.7	97.7	98.4
ENC	108.7	101.3	103.4	94.3	100.7	97.2	95.5
WNC	89.1	87.4	86.5	71.9	82.3	81.1	77.6
SA	67.5	60.7	61.6	61.5	64.7	62.3	65.8
ESC	70.1	64.2	60.3	60.2	63.7	62.0	65.7
WSC	60.9	54.5	48.6	53.9	57.4	54.2	51.7
M	64.5	63.9	58.7	58.5	63.9	61.0	59.4
P	41.8	50.3	41.3	41.7	42.1	43.1	41.6

a. Data used for 1990 was based on the *Quarterly Report of Gas Industry Operations.*

TABLE 9-12
AVERAGE GAS BILL FOR HOUSEHEATING CUSTOMERS BY CENSUS DIVISION HEATING SEASON—NOVEMBER THRU MARCH

($/Customer)

	1983–84	1984–85	1985–86	1986–87	1987–88	1988–89	1989–90[a]
Total U.S.	$447	$437	$404	$362	$368	$380	$381
NE	636	621	628	563	563	594	626
MA	677	656	656	602	535	593	626
ENC	594	567	545	457	472	478	455
WNC	469	453	417	301	354	353	359
SA	436	392	391	382	361	370	402
ESC	366	342	306	294	312	301	324
WSC	304	272	235	241	260	263	258
M	336	332	294	269	289	279	280
P	228	286	208	208	215	229	221

a. Data used for 1990 was based on the *Quarterly Report of Gas Industry Operations.*

TABLE 9-13
GAS UTILITY INDUSTRY AVERAGE PRICES, FOR GAS USED FOR ELECTRIC GENERATION, BY STATE, 1983–1989

($/MMBtu)

Division and State	1983	1984	1985	1986	1987	1988[R]	1989
United States	**$4.20**	**$4.22**	**$3.81**	**$2.72**	**$2.51**	**$2.55**	**$2.69**
New England	**3.93**	**4.01**	**3.54**	**2.36**	**2.37**	**2.41**	**2.50**
Connecticut	a	a	a	b	b	b	3.14
Maine	a	a	a	a	a	a	a
Massachusetts	3.95	4.02	3.54	2.32	2.47	2.43	2.49
New Hampshire	a	a	a	a	a	2.40	3.09
Rhode Island	3.69	3.86	3.57	3.34	2.35	2.18	2.66
Vermont	a	a	a	a	a	a	2.68
Middle Atlantic	**4.41**	**4.23**	**3.92**	**2.91**	**2.74**	**2.58**	**2.80**
New Jersey	4.38	4.35	4.05	2.88	2.55	2.51	2.82
New York	6.57	4.18	3.86	2.91	3.00	2.77	2.66
Pennsylvania	4.89	5.04	4.66	4.73	2.30	2.74	4.03
East North Central	**4.83**	**4.73**	**4.91**	**4.36**	**3.59**	**3.49**	**3.44**
Illinois	4.98	4.90	5.17	4.62	3.65	3.37	3.53
Indiana	4.28	4.17	4.14	3.82	3.48	3.71	3.72
Michigan	4.65	4.65	4.96	4.31	3.94	4.03	3.58
Ohio	5.05	5.59	4.86	4.47	2.96	3.26	3.73
Wisconsin	4.42	4.17	4.17	3.67	3.59	3.42	2.93
West North Central	**3.47**	**3.36**	**3.18**	**2.77**	**2.59**	**2.67**	**2.61**
Iowa	3.84	3.86	3.82	3.54	2.60	2.66	2.75
Kansas	3.33	3.16	2.89	2.45	2.60	2.55	2.88
Minnesota	3.86	3.94	3.90	3.31	2.09	2.47	1.80
Missouri	4.42	3.81	3.26	2.76	3.06	3.09	3.46
Nebraska	3.30	3.40	3.50	3.26	2.77	2.60	2.60
North Dakota	b	b	b	b	b	b	b
South Dakota	a	b	b	b	2.47	4.21	2.16
South Atlantic	**3.19**	**3.43**	**3.33**	**2.12**	**2.70**	**2.10**	**2.50**
Delaware	a	a	3.99	2.50	2.30	2.30	2.68
District of Columbia	a	a	a	a	a	a	a
Florida	3.16	3.42	3.32	2.10	2.74	2.09	2.49
Georgia	4.06	4.31	4.21	2.07	2.18	2.79	2.99
Maryland	a	a	b	2.54	2.64	2.42	2.55
North Carolina	4.69	4.76	b	2.65	3.38	3.37	3.54
South Carolina	4.44	a	4.50	3.47	2.78	3.37	3.54
Virginia	a	a	a	2.84	a	a	a
West Virginia	4.92	4.48	3.62	2.11	2.25	2.25	2.60
East South Central	**3.57**	**2.88**	**2.81**	**2.74**	**3.13**	**2.50**	**1.36**
Alabama	b	3.69	4.05	3.53	2.59	2.50	3.09
Kentucky	a	a	a	a	a	a	a
Mississippi	3.57	2.88	2.81	2.73	3.15	2.75	1.29
Tennessee	a	3.48	b	b	b	2.36	2.65
West South Central	**3.93**	**3.88**	**3.48**	**2.71**	**2.31**	**2.41**	**2.45**
Arkansas	3.52	3.69	3.61	2.80	3.57	3.60	b
Louisiana	3.78	3.66	3.57	2.89	1.94	1.79	1.85
Oklahoma	3.16	2.79	2.75	3.53	2.99	2.77	2.51
Texas	3.98	3.92	3.49	2.70	2.33	2.38	2.49
Mountain	**3.84**	**4.02**	**3.63**	**3.16**	**3.01**	**2.48**	**1.96**
Arizona	3.38	4.04	3.59	2.81	2.90	1.79	1.89
Colorado	4.28	3.89	3.62	3.08	2.84	2.35	2.21
Idaho	a	a	a	a	a	a	a
Montana	b	5.41	0.76	b	5.07	4.44	4.11
Nevada	4.84	4.54	4.21	3.86	3.76	2.95	3.45
New Mexico	3.53	3.68	3.41	3.42	2.77	3.22	3.66
Utah	a	a	3.83	2.39	3.34	2.82	3.12
Wyoming	a	a	4.60	2.88	2.66	2.65	2.65
Pacific	**4.98**	**4.99**	**4.40**	**2.88**	**2.65**	**2.83**	**3.12**
Alaska	1.43	1.57	1.69	1.97	1.88	2.13	2.30
California	5.11	5.09	4.48	2.91	2.68	2.85	3.15
Hawaii	a	a	a	a	a	a	a
Oregon	b	b	a	a	a	a	b
Washington	b	a	b	b	b	b	1.68

a. No sales reported.
b. Less than 0.05 trillion Btu in sales.
R–Revised.

TABLE 9-15
INDEXES OF WHOLESALE PRICES OF GAS, YEARLY AVERAGES, 1967-1989 AND MONTHLY AVERAGES, 1989

(1982-1984 = 100)

Year and Month	All Gas	Utility Gas	Liquefied Petroleum Gas
1967	9.4	0.0	a
1968	8.7	7.6	a
1969	8.8	7.7	a
1970	9.8	7.9	a
1971	10.2	8.4	15.2
1972	10.8	9.0	14.9
1973	11.9	9.8	18.0
1974	15.3	11.6	29.2
1975	20.4	16.1	35.2
1976	27.0	21.8	45.8
1977	36.6	30.8	57.3
1978	40.4	36.5	54.7
1979	51.3	47.6	64.7
1980	71.7	63.3	102.3
1981	88.6	82.1	112.0
1982	100.0	100.0	100.0
1983	108.1	106.6	113.5
1984	104.5	106.1	99.1
1985	98.7	102.9	86.3
1986	83.2	89.6	61.0
1987	74.1	79.5	57.4
1988	71.4	77.4	51.6
1989	75.3	82.0	52.7
January	75.2	82.6	49.8
February	77.3	84.5	52.6
March	74.0	80.5	52.6
April	75.2	81.6	54.0
May	77.1	83.5	56.2
June	76.3	83.2	53.3
July	76.2	83.7	50.6
August	72.8	79.5	50.1
September	75.4	82.6	59.9
October	73.7	80.2	52.0
November	74.2	80.7	52.2
December	76.0	81.7	58.3

a. Not Available.

Source: Bureau of Labor Statistics, *Producer Prices and Price Index*, 1989. Represents unofficial estimates of U.S. Bureau of Labor Statistics, based on wellhead prices for natural gas by 20 major pipeline companies, and L.P.G. price quotations from 2 major producers.

SECTION 10
ENERGY CONSUMPTION

	1989	% Change 89/88
Average Annual Consumption		
(Millions of Btu per Customer)		
Total	197.7	− 3.2
Residential	98.0	+ 0.5
Commercial	558.3	− 1.5
Industrial	19,333.4	− 8.6
Other	3,991.6	+28.4

TABLE 10-1

ANNUAL CONSUMPTION OF ENERGY RESOURCES IN THE UNITED STATES, BY MAJOR SOURCES, BY CONSUMING SECTORS, 1982–1989[a]

(Trillions of Btu)

Consuming Sectors	Coal and Coke	Natural gas dry[b]	Petroleum[c]	Hydropower[d]	Nuclear power[d]	Other[e]	Total gross energy inputs[f]	Utility electricity purchased[g]	Total Sector energy inputs
Household and commercial:									
1982	187	7,427	2,449	—	—	—	10,063	4,566	14,629
1983	192	7,025	2,498	—	—	—	9,715	4,680	14,395
1984[R]	209	7,291	2,585	—	—	—	10,086	4,928	15,014
1985[R]	176	7,078	2,573	—	—	—	9,827	5,061	14,888
1986[R]	176	6,824	2,576	—	—	—	9,576	5,235	14,811
1987[R]	162	6,954	2,618	—	—	—	9,734	5,443	15,177
1988[R]	168	7,512	2,693	—	—	—	10,373	5,724	16,097
1989[P]	145	7,791	2,658	—	—	—	10,594	5,851	16,445
Industrial:									
1982[R]	2,530[h]	7,116	7,794	33	—	—	17,473	2,542	20,015
1983[R]	2,474[h]	6,821	7,420	33	—	—	16,748	2,648	19,396
1984[R]	2,831[h]	7,449	7,894	33	—	—	18,207	2,859	21,066
1985[R]	2,747[h]	7,080	7,725	33	—	—	17,585	2,855	20,440
1986[R]	2,626[h]	6,693	7,953	32	—	—	17,304	2,834	20,138
1987[R]	2,682[h]	7,325	8,210	32	—	—	18,249	2,928	21,177
1988[R]	2,868[h]	7,693	8,463	32	—	—	19,056	3,059	22,115
1989[P]	2,845[h]	8,259	8,186	32	—	—	19,322	3,121	22,443
Transportation:[i]									
1982[R]	—	612	18,420	—	—	—	19,032	11	19,043
1983[R]	—	505	18,593	—	—	—	19,098	11	19,109
1984[R]	—	545	19,286	—	—	—	19,831	12	19,843
1985[R]	—	519	19,534	—	—	—	20,053	13	20,066
1986[R]	—	499	20,215	—	—	—	20,714	13	20,727
1987[R]	—	535	20,780	—	—	—	21,315	13	21,328
1988[R]	—	632	21,510	—	—	—	22,142	14	22,156
1989[P]	—	606	21,499	—	—	—	22,105	14	22,119
Electricity generation, utilities									
1982[R]	12,582	3,342	1,568	3,539	3,131	108	24,270	(7,119)	—
1983[R]	13,213	2,998	1,544	3,866	3,203	133	24,957	(7,339)	—
1984[R]	14,020	3,220	1,286	3,725	3,553	174	25,978	(7,799)	—
1985[R]	14,542	3,160	1,090	3,330	4,149	213	26,484	(7,929)	—
1986[R]	14,444	2,691	1,452	3,353	4,471	231	26,642	(8,082)	—
1987[R]	15,173	2,935	1,257	3,035	4,906	244	27,550	(8,384)	—
1988[P]	15,850	2,709	1,563	2,607	5,661	235	28,625	(8,797)	—
1989[P]	15,958	2,845	1,681	2,827	5,687	217	29,215	(8,986)	—
Total gross energy inputs:									
1982[R]	15,322	18,505	30,231	3,572	3,131	86	70,847	—	53,697
1983[R]	15,894	17,357	30,054	3,899	3,203	118	70,525	—	52,907
1984[R]	17,070	18,507	31,051	3,757	3,553	163	74,101	—	55,923
1985[R]	17,478	17,834	30,922	3,363	4,149	199	73,945	—	55,390
1986[R]	17,262	16,708	32,196	3,385	4,471	215	74,237	—	55,677
1987[R]	18,008	17,745	32,865	3,068	4,906	253	76,845	—	57,678
1988[R]	18,846	18,551	34,228	2,639	5,661	274	80,200	—	60,371
1989[P]	18,916	19,506	34,025	2,860	5,687	248	81,240	—	60,010

a. Gross energy is the total of inputs into the economy of the primary fuels (including imports) or their derivatives, plus the generation of hydro, nuclear power and other (converted to equivalent energy inputs).
b. Excludes natural gas liquids.
c. Petroleum products including still gas, liquefied refinery gas and natural gas liquids.
d. Outputs and hydropower (adjusted for net imports or net exports) are converted to theoretical energy inputs using 10,320 Btu per net KWH for 1987. Energy input for nuclear power converted at an average heat rate of 10,807 Btu per net KWH. Excludes inputs for power generation by non-utility plants, which are included within the other consuming sectors.
e. Includes geothermal power and electricity produced from wood and waste.
f. Gross energy resource inputs with electricity generation shown as separate consuming sector.
g. Utility electricity generated and imported, distributed to the other consuming sectors as energy resource inputs.
h. Includes net imports of coke of −16 trillion Btu in 1981, −22 trillion Btu in 1982, −16 trillion Btu in 1983, −11 trillion Btu in 1984, −13 trillion Btu in 1985, −17 trillion Btu in 1986, 9 trillion Btu in 1987, 40 trillion Btu in 1988, and 30 trillion Btu in 1989.
i. Includes bunkers and military transportation.
j. Total gross inputs may not add due to "unaccounted for" units.

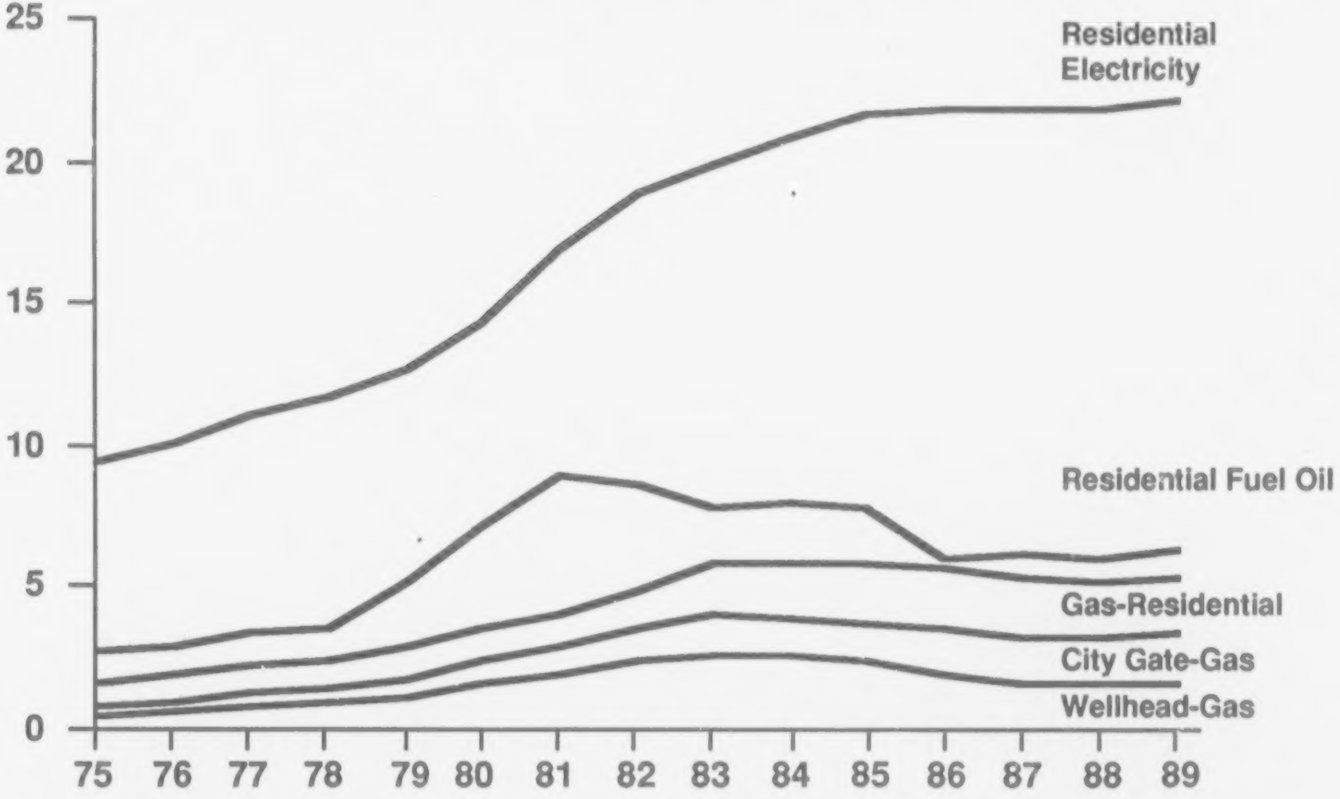
R–Revised. P–Preliminary.

Source: U.S. Department of Energy, Energy Information Administration, *Monthly Energy Review.*

CHART 9-1

RESIDENTIAL PRICES OF FUELS & ELECTRICITY

(DOLLARS/MILLION BTU)



REFERENCE: TABLES 9-5, 9-9

TABLE 9-14
AVERAGE CONSUMER PRICE INDEXES, 1967-1989[a]

(1982–1984 = 100)

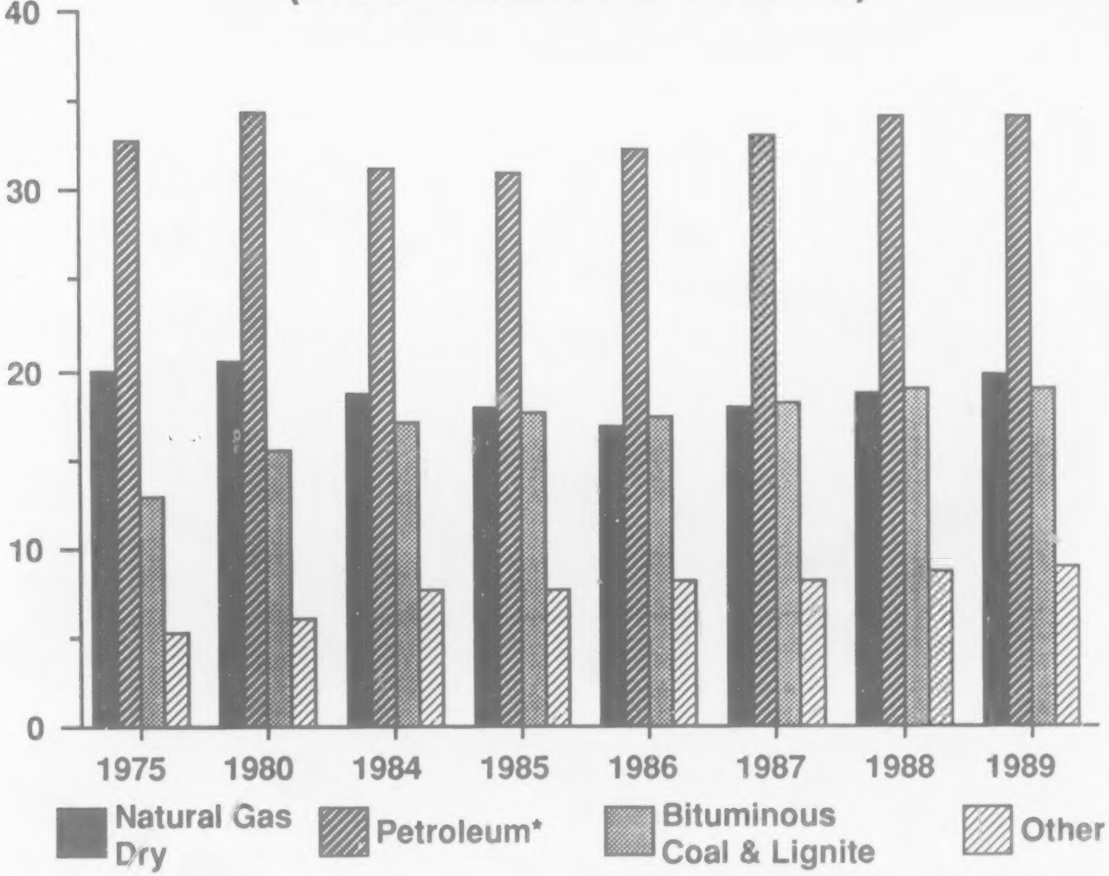
Year	All Items	Total Food	Apparel and Upkeep	Shelter[b]	Gas and Electricity	Fuel Oil and Other Utilities[c]	Year	House Furnishing[d] and Operation	Trans-portation	Medical Care	Personal Care	Other Goods and Services[e]
1967	33.4	35.1	51.0	28.8	23.7	27.1	1967	42.0	33.3	28.2	38.4	35.1
1968	34.8	36.3	53.7	30.1	23.9	27.4	1968	43.6	34.3	29.9	40.0	36.9
1969	36.7	38.0	56.8	32.6	24.3	28.0	1969	45.2	35.7	31.9	42.0	38.7
1970	38.8	39.9	59.2	35.5	25.4	29.1	1970	46.8	37.5	34.0	43.5	40.9
1971	40.5	40.9	61.1	37.0	27.1	31.1	1971	48.6	39.5	36.1	44.9	42.9
1972	41.8	42.7	62.3	38.7	28.5	32.5	1972	49.7	39.9	37.3	46.0	44.7
1973	44.4	49.7	64.6	40.5	29.9	34.3	1973	51.1	41.2	38.8	48.1	46.4
1974	49.3	57.1	69.4	44.4	34.5	40.7	1974	56.8	45.8	42.4	52.8	49.8
1975	53.8	61.8	72.5	48.8	40.1	45.4	1975	63.4	50.1	47.5	57.9	53.9
1976	56.9	63.1	75.2	51.5	44.7	49.4	1976	67.3	55.1	52.0	61.7	57.0
1977	60.6	66.8	78.6	54.9	50.5	54.7	1977	70.4	59.0	57.0	65.7	60.4
1978	65.2	73.8	81.[illegible]	60.5	55.0	58.5	1978	74.7	61.7	61.8	69.9	64.3
1979	72.6	81.8	84.9	68.9	61.0	64.8	1979	79.9	70.5	67.5	75.2	68.9
1980	82.4	88.4	90.9	81.0	71.4	75.4	1980	86.3	83.1	74.9	81.9	75.2
1981	90.9	94.8	95.3	90.5	81.9	86.4	1981	93.0	93.2	82.9	89.1	82.6
1982	96.5	98.1	97.8	96.9	93.2	94.9	1982	98.0	97.0	92.5	95.4	91.1
1983	99.6	99.1	100.2	99.1	101.5	100.2	1983	100.2	99.3	100.6	100.3	101.1
1984	103.9	102.8	102.1	104.0	105.4	104.8	1984	101.9	103.7	106.8	104.3	107.9
1985	107.6	104.3	105.0	109.8	107.1	106.5	1985	103.8	106.4	113.5	108.3	114.5
1986	109.6	107.3	105.9	115.8	105.7	104.1	1986	105.2	102.3	122.0	111.9	121.4
1987	113.6	111.9	110.6	121.3	103.8	103.0	1987	107.1	105.4	130.1	115.1	128.5
1988	118.3	116.6	115.4	127.1	104.6	104.4	1988	109.4	108.7	138.6	119.4	137.0
1989	124.0	124.2	118.6	132.8	107.5	107.8	1989	111.2	114.1	149.3	125.0	147.7

a. Applicable to all urban consumers in the United States.
b. Includes hotel and motel rates.
c. Starting in 1978 includes bottled gas.
d. Includes house furnishings only prior to 1969.
e. Prior to 1978 included alcoholic beverages, now found in food and beverages; now includes personal care and education—related expenses, formerly found in health and recreation.

Source: Bureau of Labor Statistics. *The Consumer Price Index*, 1989.

CHART 10-1

UNITED STATES ENERGY CONSUMPTION (QUADRILLIONS OF BTU)



REFERENCE: TABLE 10-1

* Includes Natural Gas Liquids

TABLE 10-2

ANNUAL CONSUMPTION OF FOSSIL ENERGY RESOURCES, AND ELECTRICITY FROM HYDROPOWER AND NUCLEAR POWER, IN THE UNITED STATES, 1967–1989[a]

(Trillions of Btu)

Year	Natural Gas Dry[b,c]	Natural Gas Liquids	Crude Petroleum and Products	Bituminous Coal and Lignite[d]	Anthracite Coal	Hydro-power[e]	Nuclear[e]	Other[f]	Grand Total Energy
1967	18,250	2,043	23,292	11,982	274	2,344	80	g	58,265
1968	19,580	2,239	24,813	12,401	258	2,342	130	g	61,763
1969	21,020	2,459	25,962	12,509	224	2,659	146	g	64,979
1970	22,029	2,494	27,043	12,488	210	2,650	229	g	67,143
1971	22,470	2,496	28,074	11,858	187	2,862	404	g	68,351
1972	22,698	2,706	30,260	12,273	150	2,946	576	g	71,609
1973	22,512	2,652	32,188	12,970	h	3,010	910	46	74,282
1974	21,732	2,565	30,890	12,719	h	3,309	1,272	56	72,543
1975	19,948	2,484	30,247	12,677	h	3,219	1,900	72	70,545
1976	20,345	i	35,175	13,585	h	3,065	2,111	81	74,362
1977	19,931	i	37,122	13,937	h	2,515	2,702	82	76,289
1978	20,000	i	37,965	13,890	h	3,142	3,024	68	78,089
1979	20,666	i	37,122	15,102	h	3,141	2,776	89	78,897
1980[R]	20,394	i	34,201	15,388	h	3,118	2,739	114	75,954
1981[R]	19,928	i	31,931	15,907	h	3,105	3,008	111	73,990
1982[R]	18,505	i	30,231	15,322	h	3,572	3,131	86	70,847
1983[R]	17,357	i	30,054	15,894	h	3,899	3,203	118	70,525
1984[R]	18,507	i	31,051	17,070	h	3,757	3,553	163	74,101
1985[R]	17,834	i	30,922	17,478	h	3,363	4,149	199	73,945
1986[R]	16,708	i	32,196	17,262	h	3,385	4,471	215	74,237
1987[R]	17,745	i	32,865	18,008	h	3,068	4,906	253	76,845
1988[R]	18,551	i	34,228	18,846	h	2,639	5,661	274	80,200
1989[P]	19,506	i	34,025	18,916	h	2,860	5,687	248	81,240

a. Represents production minus exports plus imports, and adjusted for change in inventories.

b. The Btu value per cubic foot for natural gas dry for 1966 is 1,033; 1967 1,032; 1968–1971 1,031; 1972 1,027; 1973 1,021; 1974 1,024; 1975 1,021; 1976 1,020; 1977 1,021; 1978 1,019; 1979 1,021; 1980 1,026; 1981 1,027; 1982 1,028; 1983 and 1985 1,031; 1984 1030; 1986–1987 1029; 1988 1027; 1989 1028.

c. Marketed production minus shrinkage caused by liquids extraction.

d. Includes net imports of coke of −7 trillion Btu in 1973, 56 trillion Btu in 1974, 14 trillion Btu in 1975, 15 trillion Btu in 1977, 125 trillion Btu in 1978, 63 trillion Btu in 1979, − 35 trillion Btu in 1980, −16 trillion Btu in 1981, −22 trillion Btu in 1982, −16 trillion Btu in 1983, −11 trillion in 1984, −13 trillion in 1985, −17 trillion Btu in 1986, 9 trillion Btu in 1987, −40 trillion Btu in 1988, 30 trillion Btu in 1989.

e. See Table 3-1 for procedures used to determine Btu equivalents.

f. Includes energy from geothermal, wood or waste products.

g. Not available.

h. Included in "Bituminous Coal and Lignite."

i. Included in "Crude Petroleum and Products."

R–Revised. P–Preliminary.

Source: Prior to 1977, U.S. Bureau of Mines, 1977 and beyond, U.S. Department of Energy, Energy Information Administration, *Monthly Energy Review.*

ENERGY CONSUMPTION

TABLE 10-3
ANNUAL CONSUMPTION OF FOSSIL ENERGY RESOURCES, AND ELECTRICITY FROM HYDROPOWER AND NUCLEAR POWER, IN THE UNITED STATES, 1971–1989

(Percentage)

Year	Natural Gas Dry	Natural Gas Liquids	Crude Petroleum and Products	Bituminous Coal and Lignite	Anthracite Coal	Hydro-power	Nuclear	Other	Grand Total Energy
1971	32.9	3.6	41.1	17.3	0.3	4.2	0.6	a	100.0
1972	31.7	3.8	42.3	17.1	0.2	4.1	0.8	a	100.0
1973	30.3	3.6	43.3	17.4	b	4.1	1.2	0.1	100.0
1974	30.0	3.4	42.6	17.5	b	4.6	1.8	0.1	100.0
1975	28.3	3.4	42.9	18.0	b	4.6	2.7	0.1	100.0
1976	27.4	c	47.3	18.3	b	4.1	2.8	0.1	100.0
1977	26.1	c	48.7	18.3	b	3.3	3.5	0.1	100.0
1978	25.6	c	48.6	17.8	b	4.0	3.9	0.1	100.0
1979	26.2	c	47.1	19.1	b	4.0	3.5	0.1	100.0
1980^{R}	26.9	c	45.0	20.3	b	4.1	3.6	0.1	100.0
1981	26.9	c	43.2	21.5	b	4.2	4.1	0.2	100.0
1982^{R}	26.1	c	42.7	21.6	b	5.0	4.4	0.1	100.0
1983^{R}	24.6	c	42.6	22.5	b	5.5	4.5	0.2	100.0
1984^{R}	25.0	c	41.9	23.0	b	5.1	4.8	0.2	100.0
1985^{R}	24.1	c	41.8	23.6	b	4.5	5.6	0.3	100.0
1986^{R}	22.5	c	43.4	23.3	b	4.6	6.0	0.3	100.0
1987^{R}	23.1	c	42.8	23.4	b	4.0	6.4	0.3	100.0
1988^{R}	23.1	c	42.7	23.5	b	3.3	7.1	0.3	100.0
1989^{P}	24.0	c	41.9	23.3	b	3.5	7.0	0.3	100.0

a. Not available.

b. Included in "Bituminous Coal and Lignite."

c. Included in "Crude Petroleum and Products."

R–Revised. P– Preliminary.

Source: Same as Table 10-2.

TABLE 10-4
ENERGY CONSUMPTION PER CAPITA IN THE UNITED STATES, 1971–1989

Year	Total Energy Consumed (Trillions of Btu)	Natural Gas Consumed (Trillions of Btu)	Resident Population (Thousands)	Energy Consumed Per Capita (Millions of Btu)	Natural Gas Consumed Per Capita (Millions of Btu)	Gross National Product (Billions of 1982 $)	Total Energy Per Dollar of GNP (Thousands of Btu/1982 $)	Index of Industrial Production (1987 = 100)
1971	68,351	22,470	206,827	330	109	2,484.8	27.5	62.2
1972	71,609	22,698	209,284	342	108	2,608.5	27.5	68.3
1973	74,282	22,505	211,357	351	106	2,744.1	27.1	73.8
1974	72,543	21,725	213,342	340	102	2,729.3	26.6	72.7
1975	70,545	19,948	215,465	327	93	2,695.0	26.2	66.3
1976	74,362	20,345	217,563	342	94	2,826.7	26.3	72.4
1977	76,289	19,931	219,760	347	91	2,958.6	25.8	78.2
1978	78,089	20,000	222,095	352	90	3,115.2	25.1	82.6
1979	78,897	20,666	224,567	351	92	3,192.4	24.7	85.7
1980	75,955	20,394	226,505	335	90	3,187.1	23.8	84.1
1981	73,990	19,928	229,307	323	87	3,248.8	22.8	85.7
1982	70,847	18,505	231,507	306	80	3,166.0	22.4	81.9
1983	70,525	17,357	233,974	301	74	3,277.0	21.5	84.9
1984	74,101	18,507	236,636	313	78	3,492.0	21.2	92.8
1985	73,945	17,834	238,885	310	75	3,618.7	20.4	94.3
1986^{R}	74,237	16,708	241,596	307	69	3,717.9	20.0	95.3
1987^{R}	76,845	17,745	243,419	315	72	3,845.3	20.0	100.0
1988^{R}	80,200	18,551	245,807	325	76	4,016.9	20.0	105.8
1989^{P}	81,240	19,506	248,251	327	79	4,117.7	19.7	108.4

R–Revised. P–Preliminary.

Source: U.S. Department of Energy, U.S. Bureau of the Census and the Federal Reserve Board.

TABLE 10-5
GAS UTILITY INDUSTRY AVERAGE ANNUAL CONSUMPTION PER CUSTOMER, BY CLASS OF SERVICE, 1967-1989[a]

(MMBtu/Customer)

Year	Total	Residential	Commercial	Industrial[b]	Other[b]
1967	345.2	121.5	537.8	38,710.3	11,397.0
1968	362.4	124.1	567.6	40,378.0	13,129.2
1969	376.7	128.4	611.0	42,220.0	11,327.2
1970	386.8	129.2	640.9	42,386.7	12,232.3
1971	395.0	129.9	673.8	42,235.0	17,064.6
1972	397.7	130.4	697.3	41,948.8	16,428.8
1973	377.0	124.5	684.6	40,051.7	15,129.5
1974	361.1	119.6	676.1	42,066.8	12,586.1
1975	333.6	121.9	708.9	37,253.5	12,039.8
1976	329.7	121.3	718.6	40,022.3	3,511.6
1977	316.8	118.7	714.8	39,217.5	3,996.3
1978	322.2	121.0	743.6	36,635.8	4,511.8
1979	330.3	118.6	726.5	40,345.3	5,133.9
1980	326.4	111.0	701.4	42,559.4	3,454.7
1981	320.7	104.4	666.4	44,020.2	3,235.0
1982	292.9	107.1	680.6	36,514.2	3,244.5
1983	263.5	99.1	625.1	32,759.3	2,996.9
1984	266.8	102.0	642.3	33,253.2	3,094.2
1985	252.5	98.3	612.7	31,473.1	2,739.9
1986	219.4	94.0	575.3	24,434.5	3,215.2
1987	204.4	92.6	541.7	21,374.4	2,885.5
1988[R]	204.2	97.5	566.7	21,144.0	3,074.1
1989	197.7	98.0	558.3	19,333.4	3,991.6

[a] Excludes customers purchasing for resale and sales for resale. Customer data is based on yearly averages.

[b] Prior to 1976, "Other" electric generation (See Table 6-13) is included in the "Other" class of service. For 1976 and beyond, all electric generation is included in the Industrial category.

R–Revised.

TABLE 10-6
GAS UTILITY INDUSTRY AVERAGE ANNUAL RESIDENTIAL CONSUMPTION PER CUSTOMER BY STATE, 1975-1989[a]

(MMBtu/Customer)

Division and State	1975	1980	1985	1986	1987	1988R	1989
United States	**121.9**	**111.0**	**98.3**	**94.0**	**92.6**	**97.5**	**98.0**
New England	**85.3**	**90.0**	**88.8**	**91.7**	**93.2**	**95.2**	**97.4**
Connecticut	84.6	88.1	85.8	91.7	93.2	97.3	97.8
Maine	38.7	43.2	44.3	46.1	45.8	47.6	54.0
Massachusetts	86.0	91.3	89.9	91.6	93.1	94.3	97.4
New Hampshire	95.1	97.7	94.7	99.6	95.8	95.4	98.6
Rhode Island	84.0	86.7	89.3	91.8	94.8	97.3	97.3
Vermont	93.3	102.8	105.3	107.0	103.9	105.3	116.4
Middle Atlantic	**102.1**	**102.8**	**94.7**	**97.7**	**97.4**	**102.7**	**103.8**
New Jersey	88.5	89.7	87.8	91.0	93.3	98.0	100.6
New York	89.4	90.7	87.0	89.9	89.5	94.1	94.9
Pennsylvania	135.1	133.3	112.9	116.2	114.1	121.1	121.4
East North Central	**164.5**	**158.6**	**137.1**	**133.4**	**125.2**	**137.0**	**138.2**
Illinois	168.9	162.5	147.3	145.0	132.2	145.7	145.1
Indiana	151.5	143.9	122.8	118.5	112.0	122.2	121.9
Michigan	167.7	172.8	145.8	139.9	130.9	144.4	148.0
Ohio	171.2	158.3	131.8	130.3	128.1	136.2	137.1
Wisconsin	139.0	130.8	116.5	108.6	99.1	114.1	117.1
West North Central	**152.6**	**131.3**	**117.4**	**109.1**	**99.2**	**111.3**	**112.7**
Iowa	152.2	127.7	116.4	109.6	97.5	112.3	114.4
Kansas	150.4	126.6	110.8	98.8	95.9	104.2	102.9
Minnesota	159.7	138.9	129.2	121.6	103.2	122.4	127.1
Missouri	148.9	133.2	112.7	106.8	100.7	108.1	107.0
Nebraska	155.2	128.9	118.4	106.8	96.9	107.7	109.9
North Dakota	163.0	127.6	124.5	112.2	96.5	115.4	122.0
South Dakota	145.0	117.4	115.8	106.8	92.6	105.7	111.4
South Atlantic	**96.3**	**93.2**	**78.0**	**80.0**	**82.2**	**84.4**	**81.0**
Delaware	93.6	93.4	81.1	87.6	87.8	92.6	90.8
District of Columbia	95.9	103.5	90.3	98.3	96.7	100.2	97.4
Florida	38.6	40.0	32.5	32.9	33.9	35.9	32.9
Georgia	103.5	96.9	81.7	77.7	82.5	83.0	77.8
Maryland	97.5	96.6	85.0	91.5	89.2	93.4	91.9
North Carolina	92.7	97.1	76.6	78.0	84.8	85.4	81.3
South Carolina	72.7	77.3	58.1	60.7	68.0	68.1	64.0
Virginia	100.1	99.7	84.3	89.6	92.7	95.0	93.9
West Virginia	149.4	131.0	108.9	113.9	111.2	117.1	112.3
East South Central	**107.1**	**102.4**	**85.0**	**82.9**	**84.9**	**88.7**	**86.2**
Alabama	91.2	86.9	73.6	71.3	74.8	76.5	71.8
Kentucky	136.7	130.4	104.2	103.5	102.4	110.4	109.2
Mississippi	86.6	85.9	73.5	69.2	73.2	74.4	72.1
Tennessee	105.5	101.7	85.5	83.6	85.7	89.1	87.2
West South Central	**95.9**	**84.3**	**74.9**	**67.9**	**72.7**	**73.9**	**74.9**
Arkansas	114.0	95.6	87.2	79.7	85.0	89.5	89.5
Louisana	81.9	77.0	66.1	62.3	66.8	66.6	64.0
Oklahoma	120.6	103.5	95.3	84.6	84.6	91.6	91.5
Texas	91.5	80.2	70.4	63.4	69.5	69.1	71.5
Mountain	**131.0**	**103.9**	**94.0**	**83.4**	**84.1**	**87.0**	**86.3**
Arizona	77.3	59.1	54.6	46.6	53.1	51.9	49.1
Colorado	147.2	119.8	99.7	87.9	92.2	98.1	94.3
Idaho	110.7	79.5	81.3	76.3	69.8	71.6	79.1
Montana	171.2	126.1	123.7	106.6	99.6	108.0	117.9
Nevada	113.2	87.5	73.2	63.1	68.1	69.1	80.0
New Mexico	126.6	99.1	84.4	78.9	85.2	85.1	70.6
Utah	180.1	139.0	134.9	122.2	108.2	109.4	113.9
Wyoming	161.7	128.6	122.7	106.1	97.4	108.7	111.8
Pacific	**109.9**	**81.6**	**75.6**	**65.2**	**67.2**	**65.5**	**66.5**
Alaska	221.3	216.9	205.8	183.0	179.8	181.2	194.2
California	109.4	80.5	73.6	63.0	65.7	63.3	63.9
Hawaii	29.1	25.0	20.3	19.6	19.6	19.1	19.3
Oregon	107.0	79.8	83.5	71.7	67.6	74.2	76.6
Washington	122.0	95.5	94.0	89.1	81.9	87.7	93.2

a. Customer data is based on yearly averages.
R–Revised.

TABLE 10-7
HEATING DEGREE DAYS[a] BY CALENDAR YEAR AND HEATING SEASONS, 1989-1990, AND THIRTY-YEAR NORMALS

Division and State	Calendar Year Degree Days			Heating Season Degree Days[b]		
	30-Year[c] Normals 1951-1980	1988	1989	30-Year[c] Normals 1951/52-1980/81	1988-1989	1988-1990
United States	**4,694**	**4,798**	**4,875**	**3,798**	**3,662**	**3,633**
New England	**6,562**	**6,687**	**6,853**	**5,071**	**4,939**	**5,091**
Connecticut	6,146	6,185	6,263	4,839	4,582	4,733
Maine	7,945	8,024	8,532	5,892	5,987	6,203
Massachusetts	6,322	6,530	6,663	4,913	4,808	4,947
New Hampshire	7,599	7,597	7,820	5,752	5,603	5,798
Rhode Island	5,968	6,000	6,095	4,629	4,413	4,535
Vermont	7,979	8,193	8,553	6,045	6,066	6,198
Middle Atlantic	**5,820**	**6,096**	**6,143**	**4,661**	**4,508**	**4,520**
New Jersey	5,424	5,750	5,686	4,422	4,263	4,251
New York	5,943	6,134	6,258	4,730	4,591	4,614
Pennsylvania	5,881	6,254	6,260	4,708	4,538	4,549
East North Central	**6,375**	**6,592**	**6,831**	**5,131**	**4,953**	**4,956**
Illinois	6,175	6,468	6,691	5,083	4,968	4,884
Indiana	5,871	6,120	6,267	4,815	4,588	4,594
Michigan	6,823	6,912	7,240	5,363	5,171	5,248
Ohio	5,897	6,203	6,323	4,766	4,514	4,580
Wisconsin	7,665	7,699	8,194	6,004	5,915	5,834
West North Central	**6,657**	**6,643**	**7,005**	**5,419**	**5,327**	**5,139**
Iowa	6,932	6,881	7,264	5,663	5,487	5,380
Kansas	4,988	4,998	5,177	4,271	4,053	4,059
Minnesota	8,771	8,690	9,238	6,855	6,946	6,553
Missouri	5,091	5,286	5,471	4,344	4,195	4,101
Nebraska	6,435	6,310	6,686	5,261	5,098	5,005
North Dakota	9,481	8,934	9,789	7,277	7,460	6,727
South Dakota	7,714	7,464	7,984	6,091	6,038	5,659
South Atlantic	**2,999**	**3,247**	**3,070**	**2,603**	**2,363**	**2,377**
Delaware	4,784	4,984	4,926	4,007	3,774	3,733
District of Columbia	d	d	d	d	d	d
Florida	720	749	642	713	479	597
Georgia	2,788	2,959	2,707	2,507	2,131	2,226
Maryland	4,811[e]	5,074[e]	5,032[e]	4,034[e]	3,841[e]	3,776[e]
North Carolina	3,481	3,870	3,576	3,043	2,820	2,750
South Carolina	2,743	3,086	2,746	2,495	2,246	2,200
Virginia	4,532	4,790	4,594	3,661	3,507	3,431
West Virginia	5,250	5,584	5,555	4,270	3,978	4,070
East South Central	**3,555**	**3,810**	**3,715**	**3,109**	**2,800**	**2,906**
Alabama	2,828	2,840	2,889	2,549	2,184	2,348
Kentucky	4,544	4,824	4,760	3,861	3,548	3,589
Mississippi	2,510	2,707	2,660	2,308	2,050	2,189
Tennessee	3,954	4,286	4,165	3,422	3,138	3,228
West South Central	**2,313**	**2,384**	**2,472**	**2,142**	**1,983**	**2,042**
Arkansas	3,327	3,505	3,520	2,991	2,893	2,739
Louisiana	1,794	1,880	1,879	1,703	1,441	1,615
Oklahoma	3,571	3,681	3,788	3,213	3,106	3,021
Texas	2,035	2,079	2,199	1,908	1,759	1,848
Mountain	**5,529**	**5,373**	**5,423**	**4,182**	**4,252**	**4,026**
Arizona	2,313	2,075	1,890	2,037	1,816	1,903
Colorado	7,123	7,316	7,326	5,192	5,334	5,193
Idaho	6,935	6,553	7,048	5,061	5,505	4,753
Montana	8,260	7,385	8,319	5,822	6,042	5,317
Nevada	4,263	4,002	3,990	3,373	3,427	3,147
New Mexico	4,756	4,738	4,385	3,842	3,661	3,833
Utah	6,555	6,408	6,495	4,966	5,314	4,685
Wyoming	8,023	7,657	8,015	5,744	5,884	5,487
Pacific	**3,322**	**2,989**	**3,076**	**2,432**	**2,499**	**2,283**
Alaska	f	f	f	f	f	f
California	2,703	2,366	2,420	2,060	2,100	1,924
Hawaii	f	f	f	f	f	f
Oregon	5,255	4,968	5,222	3,573	3,754	3,433
Washington	5,637	5,283	5,474	3,840	3,983	3,604

[a] See glossary for definitions of (heating) degree days. Division heating degree days are the weighted average of all states in a region, according to the 1980 population. National heating degree days are the weighted average of all divisions, according to the 1980 population.

[b] Heating season is defined as November through March period.

[c] The transference of many weather stations between city locations and nearby airports at some time during the 30 year period has led to the introduction of slight inconsistencies in the average data.

[d] Included in Maryland.

[e] Includes the District of Columbia.

[f] Not available.

Source: National Oceanic and Atmospheric Administration, *Monthly State, Regional and National Heating Degree Days Weighted by Population.*

TABLE 10-8
GAS UTILITY INDUSTRY AVERAGE ANNUAL CONSUMPTION PER CUSTOMER BY STATE AND CLASS OF SERVICE, 1989[a]

(MMBtu/Customer)

		Class of Service				
Division and State	Total	Residential	Commercial	Industrial	Electric Generation	Other
United States	**197.7**	**98.0**	**558.3**	**11,729.5**	**2,922,763.0**	**3,991.6**
New England	**198.2**	**97.4**	**601.6**	**6,998.1**	**2,771.222.2**	**819.1**
Connecticut	188.5	97.8	640.2	6,255.4	184,200.0	1,561.2
Maine	230.0	54.0	416.3	18,608.1	b	b
Massachusetts	210.1	97.4	627.0	7,565.2	4,439,909.1	856.9
New Hampshire	185.6	98.6	550.7	9,299.6	21,000.0	835.0
Rhode Island	143.9	97.3	438.3	3,403.0	217,300.0	3,376.5
Vermont	279.0	116.4	530.9	121,580.0	67,900.0	366.2
Middle Atlantic	**161.8**	**103.8**	**523.0**	**7,315.9**	**1,739,471.4**	**2,976.6**
New Jersey	176.5	100.6	554.7	8,662.6	3,468,800.0	8,954.5
New York	138.1	94.9	451.3	3,957.4	1,302,240.0	2,564.9
Pennsylvania	188.9	121.4	600.2	13,672.7	124,350.0	5,191.4
East North Central	**197.0**	**138.2**	**614.6**	**5,195.4**	**70,842.9**	**2,567.7**
Illinois	202.1	145.1	574.2	4,442.3	83,080.0	159.0
Indiana	195.5	121.9	571.1	8,624.2	167,500.0	2,947.6
Michigan	196.2	148.0	571.5	3,061.3	20,733.3	16,837.5
Ohio	190.8	137.1	622.3	6,364.6	56,333.3	2,738.5
Wisconsin	201.2	117.1	652.0	6,374.8	118,233.3	25,292.9
West North Central	**196.9**	**112.7**	**644.2**	**11,982.5**	**29,361.8**	**3,128.4**
Iowa	215.0	114.4	567.4	22,428.6	47,246.4	4,484.6
Kansas	171.2	102.9	580.2	4,008.4	13,027.3	2,864.2
Minnesota	235.9	127.1	762.2	12,394.5	62,158.8	3,527.5
Missouri	167.8	107.0	700.6	26,357.3	17,950.0	3,150.9
Nebraska	204.6	109.9	548.3	14,470.2	66,333.3	1,016.5
North Dakota	209.9	122.0	753.0	10,618.8	15,000.0	b
South Dakota	197.5	111.4	592.1	8,756.1	100,000.0	b
South Atlantic	**222.6**	**81.0**	**590.6**	**16,045.4**	**5,339,255.6**	**767.4**
Delaware	235.8	90.8	611.1	40,985.8	389,900.0	33,000.0
District of Columbia	222.7	97.4	1,331.4	b	b	b
Florida	594.4	32.9	797.6	121,510.5	10,521,282.4	3,350.0
Georgia	146.5	77.8	480.9	11,348.1	105,614.3	161.9
Maryland	161.2	91.9	568.3	3,820.6	3,047,166.7	6,528.6
North Carolina	237.2	81.3	473.2	21,486.0	37,000.0	2,522.9
South Carolina	259.1	64.0	435.5	42,161.3	123,200.0	609.1
Virginia	189.4	93.9	736.0	8,429.7	b	1,641.6
West Virginia	168.0	112.3	484.7	38,906.4	1,213,850.0	648.8
East South Central	**196.2**	**86.2**	**495.0**	**24,608.0**	**1,655,133.0**	**1,407.0**
Alabama	166.6	71.8	485.7	21,217.0	88,100.0	146.8
Kentucky	175.0	109.2	473.4	13,092.8	b	3,691.9
Mississippi	213.3	72.1	369.2	35,629.3	4,760,200.0	1,993.2
Tennessee	249.4	87.2	578.7	29,466.7	b	1,270.3
West South Central	**295.4**	**74.9**	**448.8**	**59,717.8**	**12,786,046.2**	**11,594.8**
Arkansas	166.8	89.5	413.9	17,823.3	9,000.0	24,215.4
Louisiana	231.3	64.0	344.2	59,276.0	3,185,511.1	42,464.5
Oklahoma	228.8	91.5	404.0	37,473.7	272,450.0	1,300.3
Texas	351.8	71.5	494.8	89,295.9	18,755,496.0	6,855.2
Mountain	**161.8**	**86.3**	**544.0**	**13,490.4**	**929,056.1**	**3,173.5**
Arizona	186.1	49.1	539.2	83,076.1	4,847,985.7	2,381.8
Colorado	153.8	94.3	567.2	10,032.5	264,272.7	3,162.2
Idaho	133.9	79.1	368.7	5,561.6	b	b
Montana	215.9	117.9	570.5	17,201.8	18,000.0	24,637.7
Nevada	128.8	80.0	743.4	9,341.8	161,666.7	20,409.1
New Mexico	131.6	70.6	393.2	1,641.6	142,000.0	2,738.9
Utah	167.6	113.9	548.4	21,441.4	10,733.3	11,800.0
Wyoming	198.0	111.8	643.4	20,466.5	158,400.0	2,130.2
Pacific	**171.7**	**66.5**	**529.6**	**8,585.7**	**13,998,142.4**	**18,807.6**
Alaska	497.4	194.2	1,003.5	b	2,494,366.7	b
California	163.6	63.9	494.9	8,044.9	18,604,770.8	28,890.8
Hawaii	99.0	19.3	917.2	621.7	b	b
Oregon	153.2	76.6	453.1	17,991.0	15,000.0	b
Washington	283.7	93.2	747.5	15,917.9	221,500.0	7,538.2

a. Excludes customers purchasing for resale and sales for resale. Customer data is based on yearly averages.
b. No sales reported.

SECTION 11
APPLIANCE AND HOUSING DATA

	1989	% Change 89/88
Manufacturer Shipments		
(Thousands of Units)		
Central Heating	2,354	+2.2
Ranges	2,166	+1.2
Water Heaters	4,131	+4.4
Clothes Dryers	1,055	+1.1
New One-Family Houses Completed		
(Thousands of Units)		
Gas Heat	596	+1.5

Note: Certain tables in this section could not be updated because current information was not available.

TABLE 11-1
MANUFACTURER SHIPMENTS OF GAS RANGES, WATER HEATERS AND CLOTHES DRYERS, 1967–1989[a]

(Thousands of Units)

	Domestic Range Sales			Automatic Domestic Water Heater Sales			Automatic Gas Dryers[c]
Year	Free-Standing[b]	Built-in	Total	Natural Gas	L.P. Gas	Total	
1967	1,954	169	2,123	2,246	309	2,555	829
1968	2,102	184	2,286	2,411	345	2,756	876
1969	2,282	189	2,471	2,386	356	2,742	905
1970	2,195	167	2,362	2,404	381	2,785	852
1971	2,363	186	2,549	2,645	443	3,088	847
1972	2,467	194	2,661	2,676	487	3,163	936
1973	2,312	169	2,481	2,568	512	3,080	926
1974	1,825	125	1,950	2,210	359	2,569	739
1975	1,493	125	1,618	2,388	257	2,645	672
1976	1,693	131	1,824	2,695	417	3,112	707
1977	1,615	131	1,746	d	d	3,070	736
1978	1,665	129	1,794	2,578	343	2,921	757
1979	1,670	129	1,799	2,548	339	2,887	757
1980	1,437	102	1,539	2,498	320	2,818	682
1981	1,401	95	1,496	2,461	324	2,785	639
1982	1,289	79	1,368	2,771	270	3,041	584
1983	1,477	96	1,573	2,953	219	3,172	672
1984	1,626	106	1,732	3,281	221	3,502	754
1985	1,729	84	1,813	3,303	226	3,529	834
1986	1,854	86	1,940	3,485	244	3,729	936
1987	2,047	96	2,143	3,673	278	3,951	1,037
1988[R]	2,100[e]	126[e]	2,226[e]	3,674	282	3,956	1,047[e]
1989	2,055[e]	112[e]	2,167[e]	3,845	285	4,130	1,052

a. Shows shipments by manufacturers, expanded from returns of reporting companies to represent industry-wide coverage. Shipments of appliances for L.P. gas users include those for use by customers obtaining such gas through utility mains, as well as bottled gas users.

b. Free-standing includes free-standing, "set-in" and high-oven ranges.

c. Excludes combination washer-dryer units.

d. Not Available.

e. Data not directly comparable to earlier years due to new source of information.

R-Revised.

Source: Gas Appliance Manufacturers Association, *Statistical Highlights*, Ten Year Summary, 1980-1989 and Association of Home Appliance Manufacturers.

APPLIANCE AND HOUSING DATA

TABLE 11-2
MANUFACTURER SHIPMENTS OF GAS HEATING EQUIPMENT, 1967-1989[a]

(Thousands of Units)

	Central Heating Equipment					
Year	Warm Air Furnaces	Conversion Burners	Boilers	Total	Floor and Wall Furnaces Total[b]	Direct Heating Equipment Total
1967	1,146	84	174	1,404	471	920
1968	1,428	79	187	1,694	555	974
1969	1,546	77	176	1,799	576	1,043
1970	1,471	66	164	1,701	545	781
1971	1,795	53	157	2,005	612	783
1972	2,066	40	156	2,262	762	708
1973	1,719	43	147	1,909	652	678
1974	1,476	89	123	1,688	409	488
1975	1,186	39	88	1,313	435	332
1976	1,554	26	113	1,693	523	306
1977	1,508	c	113	1,621	481	193
1978	1,636	c	126	1,762	532	175
1979	1,863	c	221	2,084	365	193
1980	1,446	c	293	1,739	297	222
1981	1,417	c	162	1,579	253	133
1982	1,156	c	148	1,304	260	182
1983	1,662	c	148	1,810	363	203
1984	1,849	c	180	2,029	391	256
1985	1,822	c	192	2,014	430	283
1986	2,105	c	196	2,301	427	281
1987	2,073	c	190	2,263	421	268
1988	2,092	c	211	2,303	429	294
1989	2,162	c	192	2,354	192[d]	305

a. Shows shipments by manufacturers; expanded from returns of reporting companies to represent industry-wide coverage.
b. Includes RV central and wall furnaces.
c. Not available.
d. Does not include RV central and wall furnaces.
Source: Gas Appliance Manufacturers Association, *Statistical Highlights*, Ten Year Summary, 1980-1989.

TABLE 11-3
MANUFACTURER SHIPMENTS OF RESIDENTIAL GAS APPLIANCES, BY MONTH, 1989

(Thousands of Units)

	Ranges				Central Heating	
Month	Free-Standing[a]	Built-in	Automatic Water Heaters	Dryers[b]	Warm Air Furnaces	Boilers
January	149.8	8.6	336.7	96.6	178.5	14.1
February	147.1	8.5	327.9	90.8	148.1	10.7
March	183.4	10.6	375.2	87.0	135.2	11.3
April	154.3	8.4	354.4	72.4	131.5	7.3
May	172.4	9.2	324.2	89.4	142.1	8.4
June	172.9	11.7	345.2	89.2	168.3	15.9
July	141.5	7.3	302.9	69.2	185.6	12.0
August	182.1	9.1	295.4	85.7	216.0	20.9
September	172.6	8.2	308.8	94.6	245.8	22.8
October	190.6	9.5	397.1	103.8	250.9	29.6
November	204.5	10.5	364.6	87.4	195.7	21.1
December	182.6	10.9	398.2	88.4	164.6	17.7
Total	2,053.8	112.5	4130.6	1054.5	2162.3	191.8

a. Free-standing includes free-standing, "set-in" and high-oven ranges.
b. Excludes combination washer-dryer units.
Source: Gas Appliance Manufacturers Association, *Statistical Highlights*, December 1989 and Association of Home Appliance Manufacturers.

TABLE 11-4
NUMBER OF OCCUPIED HOUSING UNITS,[a] BY TYPE OF HEATING FUEL AND BY CENSUS REGION, 1976-1987

(Thousands of Occupied Units)

Year and Region	Total	Gas	Electricity	Oil[b]	Other[c]/None
1976					
United States	**74,005**	**41,219**	**10,151**	**16,451**	**6,184**
Northeast	16,544	6,140	846	9,161	397
Midwest	19,722	13,803	1,366	3,004	1,549
South	23,742	11,449	5,498	3,488	3,307
West	13,998	9,826	2,441	798	933
1977					
United States	**75,280**	**41,543**	**11,146**	**16,060**	**6,531**
Northeast	16,637	6,151	958	9,103	425
Midwest	19,855	13,893	1,506	2,843	1,613
South	24,379	11,577	6,033	3,335	3,434
West	14,407	9,922	2,649	778	1,058
1978					
United States	**77,167**	**42,522**	**12,258**	**16,071**	**6,316**
Northeast	16,952	6,301	999	9,252	400
Midwest	20,171	14,140	1,685	2,817	1,529
South	25,093	11,956	6,561	3,263	3,313
West	14,951	10,125	3,013	739	1,074
1979					
United States	**78,572**	**43,323**	**13,244**	**15,708**	**6,297**
Northeast	17,122	6,558	1,109	9,056	399
Midwest	20,565	14,428	1,864	2,724	1,549
South	25,584	12,054	7,074	3,191	3,265
West	15,301	10,283	3,197	737	1,084
1980					
United States	**80,072**	**44,398**	**14,208**	**14,868**	**6,598**
Northeast	17,264	6,928	1,169	8,685	482
Midwest	20,842	14,688	2,036	2,503	1,615
South	26,286	12,290	7,615	3,009	3,372
West	15,680	10,492	3,388	671	1,129
1981					
United States	**83,175**	**46,084**	**15,486**	**14,494**	**7,111**
Northeast	17,851	7,335	1,281	8,642	593
Midwest	21,565	15,308	2,211	2,328	1,718
South	27,431	12,725	8,225	2,905	3,576
West	16,328	10,716	3,770	619	1,223
1983					
United States	**84,638**	**46,700**	**15,684**	**13,031**	**9,223**
Northeast	18,221	7,741	1,319	8,226	934
Midwest	21,618	15,656	2,172	1,774	2,015
South	27,931	12,346	8,557	2,559	4,470
West	16,868	10,956	3,635	472	1,805
1985					
United States	**88,425**	**45,328**	**18,361**	**12,441**	**12,295**
Northeast	18,729	7,339	1,642	7,998	1,750
Midwest	22,142	15,253	2,430	1,698	2,761
South	30,064	11,839	10,664	2,153	5,408
West	17,490	10,896	3,626	592	2,376
1987					
United States	**90,229**	**45,959**	**20,608**	**13,813**	**9,848**
Northeast	18,939	7,520	1,859	8,413	1,148
Midwest	22,246	15,462	2,647	1,758	2,379
South	31,068	11,853	11,977	2,852	4,387
West	17,976	11,124	4,125	791	1,935

a. Units include both single-family and multifamily.

b. Oil includes kerosene.

c. Other includes LP gas, coal, wood and solar heat.

Source: U.S. Bureau of the Census, Current Housing Reports—Series H-150. *Annual Housing Survey.* Part A: General Housing Characteristics. Publication name changed to *American Housing Survey* in 1990.

TABLE 11-5
NEW ONE FAMILY HOUSES[a] COMPLETED, BY TYPE OF HEATING FUEL AND BY CENSUS REGION, 1981-1989

(Thousands of Units)

Year and Region	Total	Gas	Electricity	Oil[b]	Other/None
1981					
United States	**819**	**339**	**407**	**16**	**57**
Northeast	87	30	34	11	12
Midwest	140	87	37	c	13
South	408	128	262	c	16
West	183	94	74	c	15
1982					
United States	**632**	**252**	**315**	**17**	**48**
Northeast	79	28	27	14	10
Midwest	92	53	24	3	13
South	340	112	214	c	13
West	121	59	50	c	12
1983					
United States	**924**	**400**	**448**	**22**	**53**
Northeast	106	40	38	18	9
Midwest	142	92	35	c	13
South	476	163	296	c	15
West	200	105	79	c	16
1984					
United States	**1,025**	**460**	**492**	**24**	**49**
Northeast	129	53	46	21	9
Midwest	156	110	30	c	14
South	508	170	325	c	12
West	233	127	91	c	14
1985					
United States	**1,072**	**466**	**528**	**36**	**42**
Northeast	168	65	63	32	8
Midwest	151	111	31	c	7
South	514	146	354	c	11
West	239	144	79	c	16
1986					
United States	**1,118**	**526**	**496**	**51**	**45**
Northeast	193	80	59	47	7
Midwest	170	132	30	c	6
South	502	152	334	c	14
West	253	162	74	c	17
1987					
United States	**1,119**	**581**	**444**	**57**	**37**
Northeast	195	86	52	52	5
Midwest	201	166	26	3	6
South	464	154	302	c	8
West	258	175	64	c	19
1988					
United States	**1,085**	**587**	**402**	**60**	**36**
Northeast	188	85	43	57	3
Midwest	191	162	22	c	6
South	457	164	282	3	8
West	248	176	53	c	18
1989					
United States	**1,026**	**596**	**352**	**50**	**28**
Northeast	159	81	29	45	4
Midwest	191	163	22	c	5
South	420	158	252	3	7
West	257	194	49	c	13

a. Includes only privately-owned housing units.
b. Does not include kerosene.
c. Withheld because estimate did not meet Bureau of the Census publication standards.
Source: U.S. Bureau of the Census, Construction Reports—Series C25, *Characteristics of New Housing*, 1989.

TABLE 11-6
UNITS[a] IN NEW MULTIFAMILY BUILDINGS COMPLETED, BY TYPE OF HEATING FUEL AND BY CENSUS REGION, 1981-1989

(Thousands of Units)

Year and Region	Total	Gas	Electricity	Oil[b]	Other/None
1981					
United States	**447**	**142**	**293**	**7**	**4**
Northeast	40	23	11	5	c
Midwest	78	42	36	c	c
South	218	33	184	1	c
West	111	44	63	c	4
1982					
United States	**374**	**103**	**255**	**9**	**7**
Northeast	41	15	17	8	1
Midwest	51	32	17	c	2
South	199	21	176	c	1
West	82	34	45	c	3
1983					
United States	**467**	**133**	**327**	**3**	**4**
Northeast	33	21	9	c	d
Midwest	59	37	22	c	1
South	270	31	238	c	1
West	104	44	58	c	3
1984					
United States	**627**	**165**	**452**	**5**	**5**
Northeast	40	16	18	c	1
Midwest	65	34	32	c	d
South	358	46	312	c	d
West	164	70	90	c	4
1985					
United States	**631**	**197**	**425**	**3**	**5**
Northeast	46	25	17	3	1
Midwest	79	36	42	c	1
South	298	34	263	c	1
West	207	101	103	c	3
1986					
United States	**636**	**221**	**400**	**8**	**7**
Northeast	61	33	19	7	2
Midwest	100	43	56	c	1
South	259	33	224	1	1
West	216	112	101	c	3
1987					
United States	**545**	**222**	**306**	**5**	**12**
Northeast	60	35	18	5	2
Midwest	102	63	37	d	2
South	194	30	162	d	2
West	190	95	89	d	6
1988					
United States	**445**	**196**	**238**	**4**	**7**
Northeast	62	40	18	3	1
Midwest	89	56	32	d	1
South	138	20	118	d	d
West	156	80	70	d	5
1989					
United States	**397**	**167**	**215**	**5**	**11**
Northeast	60	38	16	4	1
Midwest	76	51	22	d	c
South	129	20	109	d	d
West	131	57	68	d	c

a. Includes only privately-owned housing units.
b. Does not include kerosene.
c. Withheld because estimate did not meet Bureau of the Census publication standards.
d. Fewer than 500 units.
Source: U.S. Bureau of the Census, Construction Reports—Series C25, *Characteristics of New Housing*, 1989.

TABLE 11-7
NUMBER OF OCCUPIED HOUSING UNITS,[a] BY TYPE OF COOKING FUEL AND BY CENSUS REGION, 1975-1987

(Thousands of Occupied Units)

Year and Region	Total	Gas	Electricity	Oil[b]	Other[c]/None
1975					
United States	**72,523**	**32,493**	**33,944**	**76**	**6,011**
Northeast	16,508	9,244	5,973	27	1,264
Midwest	19,393	9,051	8,699	16	1,627
South	23,105	8,229	12,224	31	2,621
West	13,518	5,968	7,048	3	499
1976					
United States	**74,003**	**32,299**	**35,669**	**44**	**5,991**
Northeast	16,545	9,086	6,178	14	1,267
Midwest	19,722	8,978	9,165	7	1,572
South	23,741	8,179	12,897	22	2,643
West	13,996	6,057	7,429	1	509
1977					
United States	**75,280**	**32,207**	**37,042**	**45**	**5,986**
Northeast	16,635	9,096	6,280	17	1,242
Midwest	19,857	8,857	9,426	14	1,560
South	24,379	8,146	13,563	11	2,659
West	14,408	6,107	7,773	2	526
1978					
United States	**77,167**	**32,576**	**38,779**	**107**	**5,705**
Northeast	16,952	9,185	6,568	44	1,155
Midwest	20,171	8,847	9,833	32	1,459
South	25,094	8,242	14,234	24	2,594
West	14,950	6,302	8,144	7	497
1979					
United States	**78,572**	**32,551**	**40,345**	**84**	**5,593**
Northeast	17,123	9,162	6,752	42	1,166
Midwest	20,565	8,958	10,180	15	1,413
South	25,585	8,171	14,873	22	2,519
West	15,299	6,258	8,540	6	496
1980					
United States	**80,072**	**32,664**	**41,729**	**152**	**5,528**
Northeast	17,264	9,234	6,828	65	1,138
Midwest	20,842	8,898	10,516	30	1,398
South	26,286	8,196	15,531	37	2,521
West	15,680	6,336	8,852	20	471
1985					
United States	**88,425**	**33,794**	**49,057**	**153**	**5,421**
Northeast	18,729	9,526	7,874	20	1,309
Midwest	22,142	9,135	11,826	24	1,157
South	30,064	8,298	19,201	55	2,510
West	17,490	6,834	10,156	54	446
1987					
United States	**90,499**	**33,670**	**51,629**	**178**	**5,022**
Northeast	18,853	9,344	8,246	34	1,229
Midwest	22,179	8,967	12,045	41	1,126
South	31,163	8,176	20,652	68	2,267
West	18,304	7,183	10,686	35	400

a. Units include both single-family and multifamily.

b. Oil includes kerosene.

c. Other includes LP gas, coal and wood.

Sources: For 1974-1977, U.S. Bureau of the Census, Current Housing Reports—Series H-150, *Annual Housing Survey.* Part A. For 1978-1980, U.S. Bureau of the Census, Current Housing Reports—Series H-150, *Annual Housing Survey.* Part F: Energy-Related Housing Characteristics. Publication name changed to *American Housing Survey* in 1990.

TABLE 11-8
NUMBER OF OCCUPIED HOUSEHOLDS BY TYPE OF FUEL USED FOR WATER HEATING AND CLOTHES DRYING, AND BY CENSUS REGION, 1985

(Millions of Households)

Region	Total	Gas	Electricity	Oil[a]	Other[b]/None
Water Heating					
United States	**88.4**	**49.6**	**30.8**	**6.4**	**1.1**
Northeast	18.7	8.8	3.9	5.7	0.3
Midwest	22.1	16.0	5.8	0.1	0.2
South	30.1	12.9	16.1	0.5	0.2
West	17.5	12.0	5.0	0.1	0.4
Clothes Drying					
United States	**88.4**	**12.8**	**42.2**	c	**33.4**
Northeast	18.7	2.8	7.4	c	8.5
Midwest	22.1	5.0	10.0	c	7.1
South	30.1	2.1	16.7	c	11.3
West	17.5	2.9	8.1	c	6.5

NUMBER OF OCCUPIED HOUSEHOLDS BY TYPE OF FUEL USED FOR WATER HEATING AND CLOTHES DRYING, AND BY CENSUS REGION, 1987

(Millions of Households)

United States	**90.5**	**49.3**	**32.0**	**5.3**	**3.9**
Northeast	19.0	9.0	4.5	5.1	0.3
Midwest	22.3	15.3	5.8	d	1.1
South	30.9	12.6	16.7	d	1.4
West	18.3	12.4	5.0	d	0.9
Clothes Drying					
United States	**90.5**	**12.9**	**45.9**	c	**31.7**
Northeast	19.0	3.1	8.1	c	7.8
Midwest	22.3	4.3	11.4	c	6.6
South	30.9	2.1	17.9	c	10.9
West	18.3	3.4	8.6	c	6.3

a. Oil includes kerosene.
b. Other includes LP gas, coal, wood and solar.
c. Not applicable.
d. Data withheld because of large variance.
Source: U.S. Department of Energy, Energy Information Administration, *Residential Energy Consumption Survey: Housing Characteristics.*

SECTION 12
INCOME ACCOUNTS

	1989	% Change 89/88
Total Operating Revenues		
(Millions)		
Total Industry	$70,363	+ 0.9
Distribution	18,761	+12.6
Transmission	23,883	− 9.8
Integrated	11,536	+ 2.5
Combination	16,183	+ 5.4
Net Income		
(Millions)		
Total Industry	$ 4,641	+38.5
Distribution	1,097	+15.5
Transmission	2,270	+52.2
Integrated	638	+50.5
Combination	636	+30.6

TABLE 12-1
COMPOSITE INCOME ACCOUNTS
INVESTOR-OWNED GAS UTILITY INDUSTRY
TOTAL INDUSTRY[a], 1975–1989

(Millions)

	1975	1980	1985	1986	1987	1988R	1989
Total Operating Revenues	$30,550	$85,918	$103,945	$80,978	$69,566	$69,754	$70,363
Operation Expenses	22,254	73,288	86,944	64,347	54,409	55,283	54,146
Maintenance Expenses	703	1,220	1,628	1,685	1,645	1,749	1,844
Total Operation and Maintenance Expenses	22,957	74,508	88,572	66,032	56,054	57,032	55,990
Depreciation, Retirements, Depletion, etc.	1,760	2,434	3,158	3,305	3,176	3,423	3,429
Federal Income Taxes	965	1,369	2,282	1,760	1,454	1,120	1,028
Provision for Deferred Federal Income Taxes	465	1,949	2,206	2,613	2,795	2,767	2,973
Portion of Current Federal Income Taxes Provided For in Prior Years	(252)	(1,406)	(1,676)	(1,614)	(1,196)	(2,789)	(2,476)
Investment Tax Credit Adjustment	130	213	238	4	(13)	(43)	(35)
Other Federal Taxes	109	202	355	369	360	388	412
State Income Taxes	116	200	314	315	238	243	289
Other State and Local Taxes	1,230	2,320	2,671	2,686	2,541	2,555	2,652
Total Taxes	2,763	4,847	6,590	6,133	5,179	4,241	4,843
Total Operating Expenses	27,480	81,789	98,320	75,470	64,409	64,696	64,262
Operating Income	3,070	4,129	5,625	5,508	5,157	5,058	6,101
Other Operating Income	21	23	140	231	159	4	2
Allowance for Funds Used During Construction	130	319	265	204	136	140	171
Utility Operating Income	3,221	4,471	6,030	5,943	5,452	5,202	6,274
Other Income (Non-Operating) (Net)	916[b]	2,458[b]	1,606[b]	1,142[b]	1,393[b]	2,270[b]	2,490[b]
Income Before Interest Charges	4,137[b]	6,929[b]	7,636[b]	7,085[b]	6,845[b]	7,472[b]	8,764[b]
Interest on Long-Term Debt	1,423	1,961	2,847	2,829	2,799	2,579	2,850
Amortization of Debt Disc. Exp. and Premium	12	15	25	70	85	69	123
Other Interest Expense (Net)	203	622	724	832	926	1,381	1,115
Total Interest Charges	1,638	2,598	3,596	3,731	3,810	4,029	4,088
Net Income Before Extraordinary Items	2,499[b]	4,331[b]	4,039[b]	3,354[b]	3,035[b]	3,443[b]	4,676[b]
Extraordinary Items, Less Taxes	3	(137)	(255)	36	(64)	(91)	(35)
Net Income	2,502[b]	4,194[b]	3,785[b]	3,390[b]	2,971[b]	3,352[b]	4,641[b]
Preferred Dividends	184	296	430	370	302	229	262
Common Dividends	1,325	2,268	3,630	3,512	3,151	2,922	2,851
Note:							
Number of Companies Reporting[c]	204	201	184	177	187	175	165
Op. Rev. of Companies Reporting (Millions)	$29,057	$79,896	$94,935	$72,816	$64,626	$64,731	$65,533

a. For combination companies, only gas operations are included.

b. Not comparable with prior years due to a 1973 Federal Power Commission ruling requiring adoption of the equity method in reporting earnings of subsidiaries.

c. Financial data of report companies expanded to represent total industry on the basis of operating revenues.

R–Revised.

( ): Denotes negative.

Note: Data not directly comparable from year to year due to acquisitions and mergers. See page ix.

INCOME ACCOUNTS

TABLE 12-2
COMPOSITE INCOME ACCOUNTS
INVESTOR-OWNED GAS UTILITY INDUSTRY
DISTRIBUTION COMPANIES, 1983–1989

(Millions)

	1983	1984	1985	1986	1987	1988[R]	1989
Total Operating Revenues	$16,743	$17,366	$21,510	$18,352	$16,513	$16,665	$18,761
Operation Expenses	14,064	14,370	17,387	14,384	12,687	12,670	14,142
Maintenance Expenses	271	294	420	425	430	440	515
Total Operation and Maintenance Expenses	14,335	14,664	17,807	14,809	13,117	13,110	14,657
Depreciation, Retirements, Depletion, etc.	372	397	571	625	629	687	840
Federal Income Taxes	176	388	345	429	433	381	340
Provision for Deferred Federal Income Taxes	214	139	250	214	205	222	265
Portion of Current Federal Income Taxes Provided For in Prior Years	(70)	(120)	(68)	(97)	(166)	(199)	(112)
Investment Tax Credit Adjustment	35	40	71	4	(11)	(21)	(23)
Other Federal Taxes	62	70	97	97	101	109	128
State Income Taxes	44	47	65	63	54	60	94
Other State and Local Taxes	774	837	1,122	1,028	937	920	927
Total Taxes	1,235	1,401	1,882	1,738	1,553	1,472	1,620
Total Operating Expenses	15,942	16,462	20,260	17,172	15,299	15,269	17,116
Operating Income	801	904	1,250	1,180	1,214	1,396	1,644
Other Operating Income	2	3	4	2	2	4	2
Allowance for Funds Used During Construction	12	11	9	9	15	22	26
Utility Operating Income	815	918	1,263	1,191	1,231	1,421	1,671
Other Income (Non-Operating) (Net)	91	94	121	(64)	29	129	140
Income Before Interest Charges	906	1,012	1,384	1,127	1,260	1,551	1,811
Interest on Long-Term Debt	323	327	456	448	460	469	591
Amortization of Debt Disc. Exp. and Premium	3	4	5	7	8	9	10
Other Intererst Expense (Net)	60	54	93	88	88	136	118
Total Interest Charges	386	385	554	543	556	614	719
Net Income Before Extraordinary Items	520	627	829	584	704	937	1,092
Extraordinary Items, Less Taxes	a	a	2	105	9	13	5
Net Income	521	627	831	689	713	950	1,097
Preferred Dividends	31	31	44	39	30	31	38
Common Dividends	329	400	640	677	570	622	744
Note:							
Number of Companies Reporting	53	53	65	60	61	63	54
Op. Rev. of Companies Reporting (Millions)	$15,395	$15,659	$19,424	$16,508	$15,254	$15,353	$17,381

a. Less than $500,000.
( ): Denotes negative.
Note: Data not directly comparable from year to year due to acquisitions and mergers. See page ix.

TABLE 12-3
COMPOSITE INCOME ACCOUNTS INVESTOR-OWNED GAS UTILITY INDUSTRY TRANSMISSION COMPANIES, 1975–1989

(Millions)

	1975	1980	1985	1986	1987	1988	1989
Total Operating Revenues	$11,898	$41,604	$45,738	$33,887	$27,275	$26,482	$23,883
Operation Expenses	8,463	36,075	39,635	27,385	21,972	22,226	18,920
Maintenance Expenses	187	405	523	593	546	603	594
Total Operation and Maintenance Expenses	8,650	36,480	40,158	27,978	22,518	22,829	19,514
Depreciation, Retirements, Depletion, etc.	896	1,238	1,449	1,677	1,461	1,537	1,228
Federal Income Taxes[a]	646	846	1,103	869	200	148	251
Provision for Deferred Federal Income Taxes	246	1,421	1,399	1,596	2,056	2,017	2,143
Portion of Current Federal Income Taxes Provided For in Prior Years	(221)	(1,069)	(1,189)	(1,158)	(1,457)	(2,171)	(1,970)
Investment Tax Credit Adjustment	48	77	49	(9)	1	(5)	4
Other Federal Taxes	22	52	92	101	89	102	96
State Income Taxes	52	92	101	126	66	72	89
Other State and Local Taxes	221	572	425	407	425	429	369
Total Taxes	1,014	1,991	1,980	1,932	1,380	592	981
Total Operating Expenses	10,560	39,709	43,587	31,587	25,359	24,958	21,723
Operating Income	1,338	1,895	2,151	2,300	1,916	1,524	2,159
Other Operating Income	b	3	125	223	151	b	b
Allowance for Funds Used During Construction	38	126	44	36	33	48	65
Utility Operating Income	1,376	2,024	2,320	2,559	2,100	1,572	2,225
Other Income (Non-Operating) (Net)[c]	640[b]	1,755[b]	1,238[b]	892[b]	1,100[b]	2,207[b]	2,060[b]
Income Before Interest Charges	2,016[b]	3,779[b]	3,558[b]	3,451[b]	3,200[b]	3,779[b]	4,285[b]
Interest on Long-Term Debt	643	979	1,346	1,483	1,493	1,252	1,307
Amortization of Debt Disc. Exp. and Premium	7	8	9	54	59	46	96
Other Interest Expense (Net)	110	325	317	534	623	959	583
Total Intererst Charges	760	1,312	1,672	2,071	2,175	2,257	1,986
Net Income Before Extraordinary Items	1,256[b]	2,467[b]	1,886[b]	1,380[b]	1,025[b]	1,522[b]	2,299[b]
Extraordinary Items, Less Taxes	0	(141)	(129)	(53)	(10)	(31)	(29)
Net Income	1,256[b]	2,326[b]	1,757[b]	1,327[b]	1,015[b]	1,491[b]	2,270[b]
Preferred Dividends	79	142	164	182	152	88	63
Common Dividends	600	1,229	1,984	1,917	1,633	1,353	1,176
Note:							
Number of Companies Reporting	33	39	38	38	45	37	36
Op. Rev. of Companies Reporting (Millions)	$11,192	$37,971	$41,705	$30,644	$24,457	$23,579	$21,194

a. Less than $500,000.

b. Not comparable with prior years due to 1973 Federal Power Commission ruling requiring adoption of the equity method in reporting earings of subsidiaries.

( ): Denotes negative.

Note: Data not directly comparable from year to year due to acquisitions and mergers. See page ix.

TABLE 12-4
COMPOSITE INCOME ACCOUNTS
INVESTOR-OWNED GAS UTILITY INDUSTRY
INTEGRATED COMPANIES, 1983-1989

(Millions)

	1983	1984	1985	1986	1987	1988	1989
Total Operating Revenues	$27,125	$25,599	$17,396	$12,348	$10,954	$11,254	$11,536
Operation Expenses	22,806	21,043	14,281	9,765	8,465	8,637	8,693
Maintenance Expenses	422	432	306	273	262	277	293
Total Operation and Maintenance Expenses	23,228	21,475	14,587	10,038	8,727	8,914	8,986
Depreciation, Retirements, Depletion, etc.	704	682	571	373	441	479	584
Federal Income Taxes	506	714	441	171	440	294	140
Provision for Deferred Federal Income Taxes	382	156	238	343	186	146	201
Portion of Current Federal Income Taxes Provided For in Prior Years	(258)	(171)	(204)	(70)	(287)	(115)	(93)
Investment Tax Credit Adjustment	84	78	57	(5)	(3)	(9)	(7)
Other Federal Taxes	100	105	79	74	71	76	79
State Income Taxes	95	106	69	54	42	49	23
Other State and Local Taxes	867	905	511	465	429	452	555
Total Taxes	1,776	1,893	1,191	1,032	878	893	897
Total Operating Expenses	25,708	24,050	16,349	11,443	10,046	10,286	10,468
Operating Income	1,417	1,549	1,047	905	908	968	1,068
Other Operating Income	18	13	11	6	6	a	a
Allowance for Funds Used During Construction	10	9	7	6	9	9	9
Utility Operating Income	1,445	1,571	1,065	917	923	977	1,077
Other Income (Non-Operating) (Net)	457	419	162	206	208	15	267
Income Before Interest Charges	1,902	1,990	1,227	1,123	1,131	992	1,344
Interest on Long-Term Debt	635	634	501	355	356	349	366
Amortization of Debt Disc. Exp. and Premium	4	5	6	3	10	5	5
Other Interest Expense (Net)	140	119	274	166	172	228	335
Total Interest Charges	779	758	781	524	538	582	706
Net Income Before Extraordinary Items	1,123	1,232	446	599	593	410	638
Extraordinary Items, Less Taxes	a	(30)	25	14	21	14	0
Net Income	1,123	1,202	471	613	614	424	638
Preferred Dividends	78	127	99	38	34	36	28
Common Dividends	774	846	575	458	461	461	444
Note:							
Number of Companies Reporting	43	42	26	25	28	23	22
Op. Rev. of Companies Reporting (Millions)	$24,309	$22,394	$14,743	$9,404	$10,243	$10,540	$10,801

a. Less than $500,000.
( ): Denotes negative.
Note: Data not directly comparable from year to year due to acquisitions and mergers. See page ix.

TABLE 12-5
COMPOSITE INCOME ACCOUNTS
INVESTOR-OWNED GAS UTILITY INDUSTRY
COMBINATION COMPANIES, 1983–1989

(Millions)

	1983	1984	1985	1986	1987	1988R	1989
Gas Operations							
Total Operating Revenues	$18,651	$19,207	$19,301	$16,391	$14,824	$15,353	$16,183
Operation Expenses	15,567	15,692	15,641	12,813	11,285	11,750	12,391
Maintenance Expenses	346	354	379	394	407	429	442
Total Operation and Maintenance Expenses	15,913	16,046	16,020	13,207	11,692	12,179	12,833
Depreciation, Retirements, Depletion, etc.	480	522	567	630	645	720	777
Federal Income Taxes	116	513	393	291	381	297	297
Provision for Deferred Federal Income Taxes	416	250	319	460	348	382	364
Portion of Current Federal Income Taxes Provided For in Prior Years	(220)	(309)	(215)	(289)	(286)	(304)	(300)
Investment Tax Credit Adjustment	76	95	61	14	b	(8)	(9)
Other Federal Taxes	74	82	87	97	99	101	109
State Income Taxes	63	82	79	72	76	62	83
Other State and Local Taxes	790	786	813	786	750	754	801
Total Taxes	1,315	1,499	1,537	1,431	1,368	1,284	1,345
Total Operating Expenses	17,708	18,067	18,124	15,268	13,705	14,183	14,955
Operating Income[a]	943	1,140	1,177	1,123	1,119	1,170	1,228
Total Operations							
Total Operating Revenues	$60,883	$62,035	$63,647	$58,917	$56,839	$60,730	$61,993
Operation Expenses	36,987	36,616	36,773	31,748	29,841	31,965	33,236
Maintenance Expenses	3,195	3,852	3,589	3,438	3,680	4,089	3,966
Total Operation and Maintenance Expenses	40,092	39,916	40,362	35,186	33,521	36,054	37,202
Depreciation, Retirements, Depletion, etc.	3,606	3,852	4,210	4,334	4,658	5,399	6,159
Federal Income Taxes	1,324	1,864	1,972	2,475	2,466	2,161	2,015
Provision for Deferred Federal Income Taxes	2,431	2,502	2,477	3,180	3,010	2,993	2,978
Portion of Current Federal Income Taxes Provided For in Prior Years	(981)	(1,129)	(884)	(1,136)	(1,623)	(2,330)	(2,722)
Investment Tax Credit Adjustment	847	925	790	40	21	(101)	(84)
Other Federal Taxes	360	380	401	410	450	483	483
State Income Taxes	432	538	466	489	430	457	470
Other State and Local Taxes	3,998	4,014	4,213	4,231	4,254	4,567	4,668
Total Taxes	8,411	9,095	9,435	9,689	9,008	8,230	7,809
Total Operating Expenses	52,109	52,863	54,007	49,208	47,187	49,683	51,170
Operating Income	8,774	9,172	9,640	9,708	9,652	11,046	10,822
Other Operating Income	1	1	1	31	13	b	b
Allowance for Funds Used During Construction	2,975	2,568	2,578	1,937	1,122	880	818
Utility Operating Income	11,750	11,741	12,219	11,676	10,787	11,927	11,640
Other Income (Non-Operating) (Net)	478	745	968	1,158	423	(443)	8
Income Before Interest Charges	12,228	12,486	13,187	12,834	11,210	11,484	11,648
Interest on Long-Term Debt	4,615	4,718	5,155	4,971	4,728	4,948	4,942
Amortization of Debt Disc. Exp. and Premium	35	21	53	62	79	92	96
Other Interest Expense (Net)	410	383	302	322	372	415	536
Total Interest Charges	5,060	5,122	5,510	5,355	5,179	5,455	5,574
Net Income Before Extraordinary Items	7,168	7,364	7,677	7,479	6,031	6,029	6,074
Extraordinary Items, Less Taxes	9	15	749	(206)	(1,079)	(1,365)	(52)
Net Income	7,177	7,379	6,928	7,273	4,952	4,664	6,022
Preferred Dividends	1,073	1,022	1,006	914	778	719	1,070
Common Dividends	4,188	4,045	4,388	4,425	4,609	4,639	4,270
Note:							
Number of Companies Reporting	57	54	55	54	53	52	53
Total Op. Revenues of Companies Reporting (Millions)	$60,231	$60,980	$62,862	$58,444	$56,258	$60,358	$61,891
Gas Revenues of Companies Reporting (Millions)	$18,479	$18,880	$19,063	$16,260	$14,672	$15,259	$16,157

a. Includes "Other Operating Income" which was less than $500,000 in each year.

b. Less than $500,000.

R–Revised.

( ): Denotes negative.

Note: Data not directly comparable from year to year due to acquisitions and mergers. See page ix.

INCOME ACCOUNTS

TABLE 12-6
INVESTOR-OWNED GAS UTILITY INDUSTRY GAS OPERATION AND MAINTENANCE EXPENSES BY TYPE OF COMPANY, 1988-1989

(Millions)

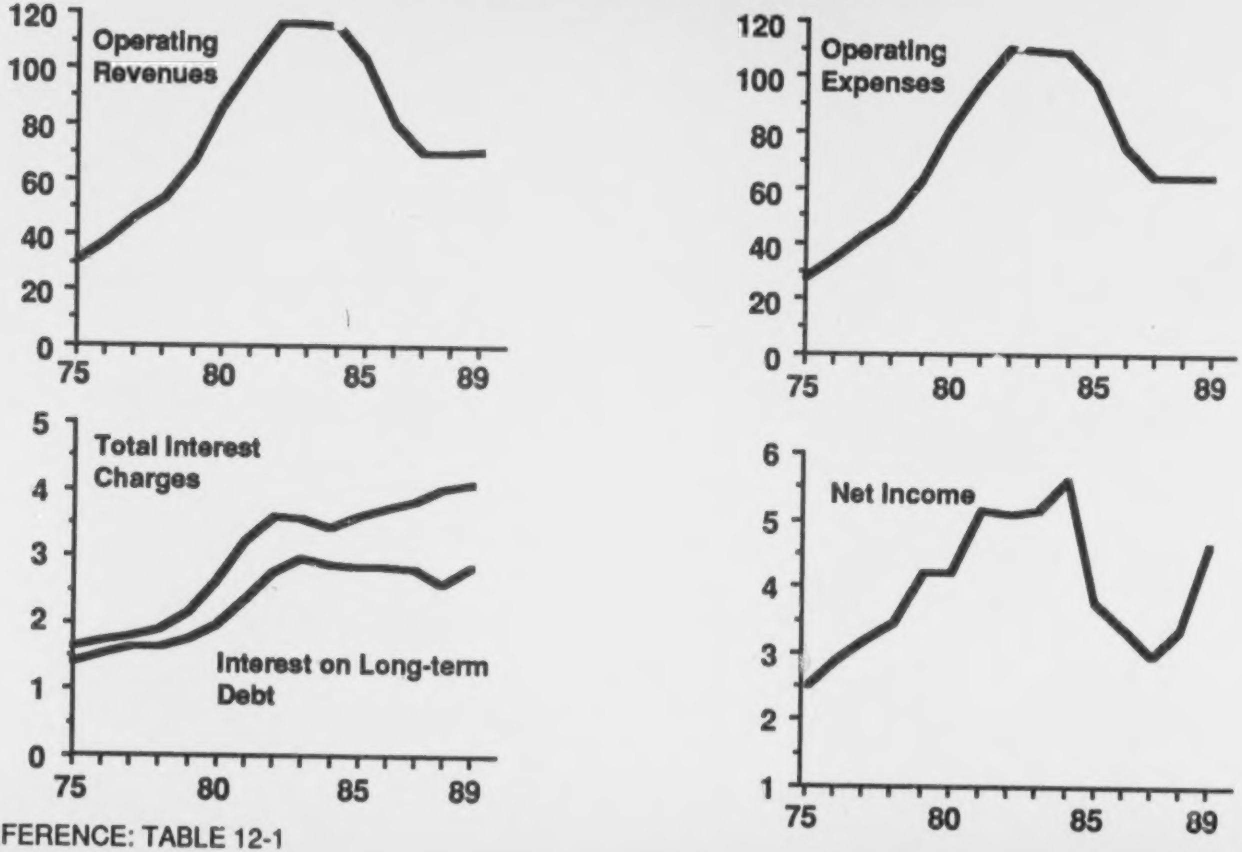
Total Industry	1988[R]		1989	
Type of Expense	Operation	Maintenance	Operation	Maintenance
Purchased Gas Cost and Production Exp.	$41,206	$ 0	$39,194	$ 0
Other Production and Purch. Exp. and Adjustments	2,303	128	2,475	116
Production and Purchases, Total	43,509	128	41,669	116
Storage	615	101	624	101
Transmission	2,796	513	2,732	537
Distribution	1,581	923	1,669	998
Customer Accounts	1,604	a	1,885	a
Sales	203	0	218	0
Administrative and General	4,624	84	4,994	92
Customer Service	352	0	355	0
Total	55,284	1,749	54,146	1,844
Distribution Companies				
Type of Expense	Operation	Maintenance	Operation	Maintenance
Purchased Gas Cost and Production Exp.	$ 9,873	$ 0	$10,894	$ 0
Other Production and Purch. Exp. and Adjustments	93	11	112	7
Production and Purchases, Total	9,966	11	11,006	7
Storage	41	15	57	24
Transmission	22	5	58	15
Distribution	652	378	732	435
Customer Accounts	673	0	737	0
Sales	113	0	113	0
Administrative and General	1,108	31	1,308	34
Customer Service	95	0	131	0
Total	12,671	440	14,142	515
Transmission Companies				
Type of Expense	Operation	Maintenance	Operation	Maintenance
Purchased Gas Cost and Production Exp.	$15,422	$ 0	$12,120	$ 0
Other Production and Purch. Exp. and Adjustments	2,028	87	2,080	75
Production and Purchases, Total	17,450	87	14,200	75
Storage	433	49	458	44
Transmission	2,467	454	2,208	465
Distribution	31	2	0	0
Customer Accounts	12	0	197	0
Sales	23	0	28	0
Administrative and General	1,804	11	1,824	10
Customer Service	6	0	5	0
Total	22,226	603	18,920	594
Integrated Companies				
Type of Expense	Operation	Maintenance	Operation	Maintenance
Purchased Gas Cost and Production Exp.	$ 6,639	$ 0	$ 6,507	$ 0
Other Production and Purch. Exp. and Adjustments	77	13	107	17
Production and Purchases, Total	6,716	13	6,614	17
Storage	66	19	61	18
Transmission	150	27	248	32
Distribution	351	202	363	207
Customer Accounts	426	a	418	a
Sales	31	0	39	0
Administrative and General	796	16	883	19
Customer Service	101	0	67	0
Total	8,637	277	8,693	293
Combination Companies				
Type of Expense	Operation	Maintenance	Operation	Maintenance
Purchased Gas Cost and Production Exp.	$ 9,271	$ 0	$ 9,673	$ 0
Other Production and Purch. Exp. and Adjustments	105	17	176	17
Production and Purchases, Total	9,376	17	9,849	17
Storage	75	18	48	15
Transmission	157	27	218	25
Distribution	547	341	574	356
Customer Accounts	493	0	533	0
Sales	36	0	38	0
Administrative and General	916	26	979	29
Customer Service	150	0	152	0
Total	11,750	429	12,391	442

a. Less than $500,000.
R–Revised.
Note: See note previous page.

CHART 12-1

GAS UTILITY INDUSTRY COMPOSITE INCOME ACCOUNTS (INVESTOR-OWNED)

BILLIONS OF DOLLARS

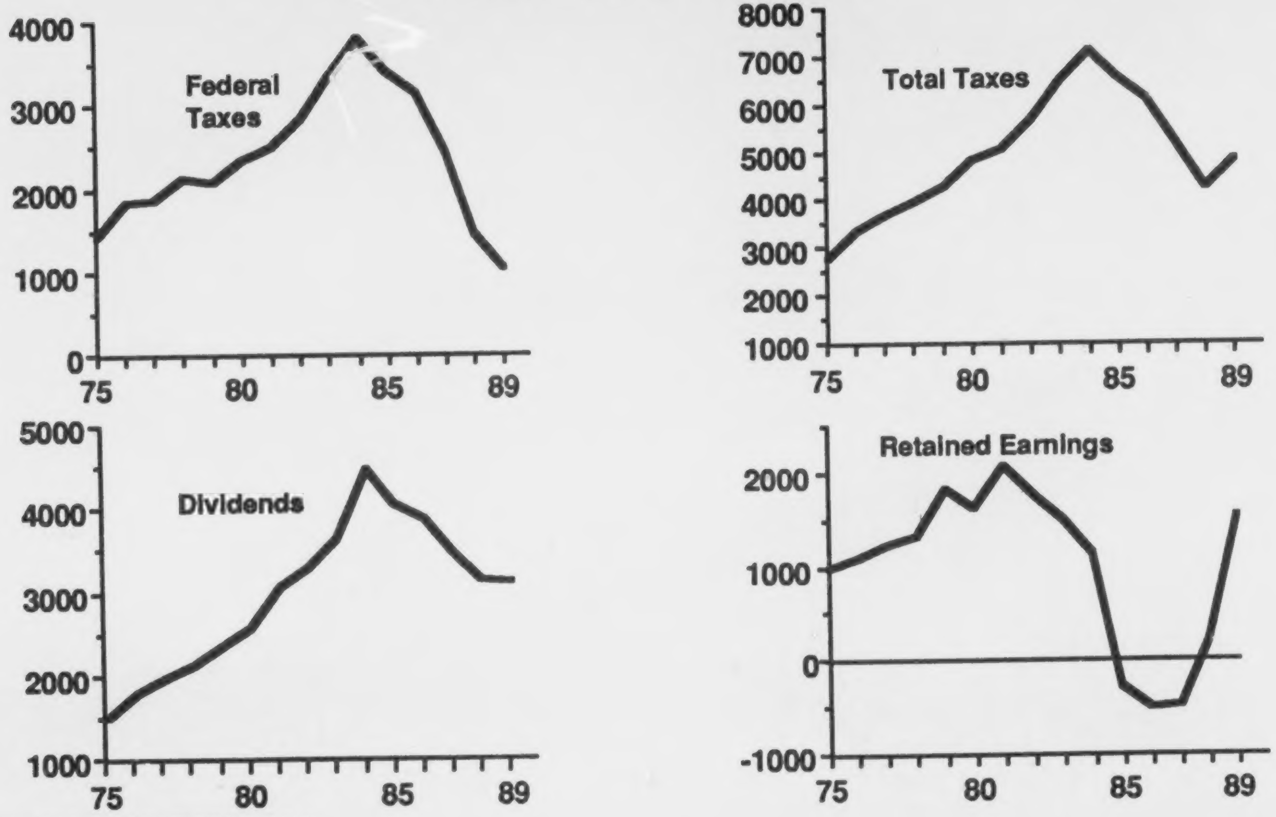


REFERENCE: TABLE 12-1

CHART 12-2

GAS UTILITY INDUSTRY DISPOSITION OF NET INCOME AND TAXES (INVESTOR-OWNED)

MILLIONS OF DOLLARS



REFERENCE: TABLE 12-1

SECTION 13
BALANCE SHEETS

	1989	% Change 89/88
Gas Utility Plant (Millions)		
Total Industry	$106,017	+ 6.1
Distribution	25,098	+19.6
Transmission	43,478	− 5.1
Integrated	16,760	+16.6
Combination	20,681	+10.2
Total Common Equity (Millions)		
Total Industry	$ 41,726	+10.6
Distribution	7,973	+16.9
Transmission	22,484	+ 7.4
Integrated	5,096	+13.9
Combination	6,173	+12.4

BALANCE SHEETS

TABLE 13-1
COMPOSITE BALANCE SHEET ACCOUNTS INVESTOR-OWNED GAS UTILITY INDUSTRY TOTAL INDUSTRY, 1975–1989

(Millions)

	1975	1980	1985	1986	1987	1988[R]	1989
ASSETS							
Total Gas Utility Plant	$49,384	$67,071	$86,547	$89,887	$93,540	$99,933	$106,017
Less Accum. Prov. for Depr. and Amort.	16,779	26,162	36,377	36,776	41,162	44,423	47,054
Net Gas Utility Plant (Total)	32,605	40,909	50,170	53,111	52,378	55,510	58,963
Gas Stored Underground (Non-Current)[a]	0	0	1,574	1,719	1,694	1,545	1,546
Investment and Fund Accounts	9,198	15,530	23,871	21,850	25,660	31,552	28,111
Current and Accrued Assets	7,543	17,243	24,771	21,477	21,025	23,402	24,836
Deferred Debits[b]	940	2,169	4,092	5,851	8,633	9,658	10,364
Total Assets	50,286	75,851	104,478	104,008	109,390	121,667	123,820
LIABILITIES							
Common Stock	5,803	6,968	7,739	7,928	7,466	7,732	7,794
Retained Earnings	7,911	13,122	18,893	16,414	15,993	17,253	18,909
Other Paid-in Capital[c]	3,245	5,597	9,450	12,507	12,387	12,739	15,023
Total Common Equity	16,959	25,687	36,082	36,849	35,846	37,724	41,726
Preferred Stock	2,541	3,628	3,435	3,053	2,366	2,174	2,163
Total Capital Stock	19,500	29,315	39,517	39,902	38,212	39,898	43,889
Bonds	10,493	9,574	9,378	9,859	10,778	10,814	10,995
Debentures	5,174	5,819	7,739	7,016	7,881	9,274	11,021
Other Long-Term Debt	3,877	6,674	9,165	9,883	9,441	9,889	8,848
Total Long-Term Debt	19,544	22,067	26,282	26,758	28,100	29,977	30,864
Total Capitalization	39,044	51,382	65,799	66,660	66,312	69,875	74,753
Current and Accrued Liabilities	8,158	18,119	26,125	23,855	26,664	33,735	31,005
Deferred Credits	752	1,683	3,779	3,985	4,693	4,896	4,870
Non-Current Liabilities[d]	194	428	879	1,007	1,694	2,372	1,788
Contributions in Aid of Construction	86	90	127	138	126	104	112
Accumulated Deferred Income Taxes[e]	2,052	4,149	7,769	8,363	9,901	10,685	11,292
Total Liabilities	50,286	75,851	104,478	104,008	109,390	121,667	123,820

a. First year this category is broken out is 1985.
b. Includes "Capital Stock Discount and Expense" and "Reacquired Securities."
c. Includes accounts formerly detailed in "Premiums, Assessments, etc." and "Capital Surplus."
d. Formerly called "Operating Reserves."
e. Includes "Reserves for Deferred Income Taxes."
R–Revised.
Note: Data not directly comparable from year to year due to acquisitions and mergers. See page ix.

TABLE 13-2
COMPOSITE BALANCE SHEET ACCOUNTS INVESTOR-OWNED GAS UTILITY INDUSTRY DISTRIBUTION COMPANIES, 1983–1989

(Millions)

	1983	1984	1985	1986	1987	1988[R]	1989
ASSETS							
Total Gas Utility Plant	$11,042	$11,980	$17,383	$17,911	$19,320	$20,988	$25,098
Less Accum. Prov. for Depr. and Amort.	3,558	3,971	5,631	5,833	6,277	6,728	8,192
Net Gas Utility Plant (Total)	7,484	8,009	11,752	12,078	13,043	14,260	16,906
Gas Stored Underground (Non-Current)[a]	0	0	124	145	127	101	176
Investment and Fund Accounts	564	659	1,136	758	909	1,141	1,127
Current and Accrued Assets	3,890	3,317	4,864	4,054	3,845	4,342	4,844
Deferred Debits	214	180	334	386	479	809	918
Total Assets	12,152	12,165	18,210	17,421	18,403	20,653	23,971
LIABILITIES							
Common Stock	974	805	1,205	1,189	1,340	1,439	2,113
Retained Earnings	1,669	1,921	2,917	2,467	2,461	3,343	3,676
Other Paid-in Capital	860	1,076	1,502	1,762	2,094	2,041	2,184
Total Common Equity	3,503	3,802	5,624	5,418	5,895	6,823	7,973
Preferred Stock	338	336	441	382	391	389	515
Total Capital Stock	3,841	4,138	6,065	5,800	6,286	7,212	8,488
Bonds	1,928	1,950	2,756	2,963	2,950	3,493	4,413
Debentures	309	345	537	700	914	1,105	1,115
Other Long-Term Debt	795	839	1,171	1,189	1,198	1,313	1,142
Total Long-Term Debt	3,032	3,134	4,464	4,852	5,062	5,911	6,670
Total Capitalization	6,873	7,272	10,529	10,652	11,348	13,123	15,158
Current and Accrued Liabilities	3,767	3,294	5,054	4,186	4,314	4,660	5,457
Deferred Credits	570	642	969	923	973	960	1,175
Non-Current Liabilities[b]	22	28	54	43	54	169	132
Contributions in Aid of Construction	62	67	116	123	117	94	100
Accumulated Deferred Income Taxes[c]	858	862	1,488	1,494	1,597	1,647	1,949
Total Liabilities	12,152	12,165	18,210	17,421	18,403	20,653	23,971

a. First year this category is broken out is 1985.
b. Formerly called "Operating Reserves."
c. Includes "Reserves for Deferred Income Taxes."
R–Revised.
Note: Data not directly comparable from year to year due to acquisitions and mergers. See page ix.

BALANCE SHEETS

TABLE 13-3
COMPOSITE BALANCE SHEET ACCOUNTS INVESTOR-OWNED GAS UTILITY INDUSTRY TRANSMISSION COMPANIES, 1975-1989

(Millions)

	1975	1980	1985	1986	1987	1988	1989
ASSETS							
Total Gas Utility Plant	$20,351	$30,334	$39,076	$42,668	$42,810	$45,800	$43,478
Less Accum. Prov. for Depr. and Amort.	8,636	14,361	21,126	22,289	25,132	26,874	25,518
Net Gas Utility Plant (Total)	11,714	15,973	17,950	20,379	17,678	18,926	17,960
Gas Stored Underground (Non-Current)[a]	0	0	868	1,055	958	837	835
Investment and Fund Accounts	6,791	11,998	14,914	18,023	21,295	27,579	22,535
Current and Accrued Assets	3,459	8,432	14,494	12,526	12,288	13,493	13,115
Deferred Debits[b]	516	1,371	2,311	3,979	6,305	6,672	6,779
Total Assets	22,480	37,774	50,537	55,962	58,524	67,507	61,224
LIABILITIES							
Common Stock	1,984	2,610	2,694	3,194	2,066	2,172	1,627
Retained Earnings	4,010	7,984	11,102	9,799	9,339	10,340	10,980
Other Paid-in Capital[c]	1,891	3,414	5,008	8,185	8,159	8,421	9,877
Total Common Equity	7,885	14,008	18,804	21,178	19,564	20,933	22,484
Preferred Stock	1,012	1,734	1,361	1,150	494	299	218
Total Capital Stock	8,897	15,742	20,165	22,328	20,058	21,232	22,702
Bonds	3,125	2,398	900	1,234	1,917	1,325	1,162
Debentures	3,124	3,732	5,529	4,805	5,515	6,482	6,718
Other Long-Term Debt	2,167	4,114	5,117	5,945	5,529	5,548	4,491
Total Long-Term Debt	8,415	10,244	11,546	11,984	12,961	13,355	12,271
Total Capitalization	17,312	25,986	31,711	34,312	33,019	34,587	34,973
Current and Accrued Liabilities	3,802	9,067	13,028	14,505	16,603	23,137	17,625
Deferred Credits	295	495	998	1,611	2,053	1,838	1,629
Non-Current Liabilities[d]	113	174	580	810	1,424	1,963	1,458
Contributions in Aid of Construction	0	0	5	7	1	4	5
Accumulated Deferred Income Taxes[e]	959	2,052	4,215	4,717	5,424	5,978	5,534
Total Liabilities	22,480	37,774	50,537	55,962	58,524	67,507	61,224

a. First year this category is broken out is 1985.
b. Includes "Capital Stock Discount and Expense."
c. Includes accounts formerly detailed in "Premiums, Assessments, etc." and "Capital Surplus."
d. Formerly called "Operating Reserves."
e. Includes "Reserves for Deferred Income Taxes."
Note: Data not directly comparable from year to year due to acquisitions and mergers. See page ix.

TABLE 13-4
COMPOSITE BALANCE SHEET ACCOUNTS INVESTOR-OWNED GAS UTILITY INDUSTRY INTEGRATED COMPANIES, 1983-1989

(Millions)

	1983	1984	1985	1986	1987	1988	1989
ASSETS							
Total Gas Utility Plant	$19,284	$19,033	$14,203	$12,236	$13,808	$14,380	$16,760
Less Accum. Prov. for Depr. and Amort.	6,902	6,875	5,743	4,305	5,079	5,493	7,028
Net Gas Utility Plant (Total)	12,382	12,158	8,460	7,931	8,729	8,887	9,732
Gas Stored Underground (Non-Current)[a]	0	0	442	371	415	410	339
Investment and Fund Accounts	5,192	6,057	7,354	2,520	2,887	2,028	3,339
Current and Accrued Assets	6,371	5,315	3,726	3,180	3,293	3,873	4,790
Deferred Debits	628	447	538	390	583	833	858
Total Assets	24,573	23,977	20,520	14,392	15,907	16,031	19,058
LIABILITIES							
Common Stock	2,351	2,174	1,808	1,497	1,932	1,874	1,548
Retained Earnings	4,056	4,252	3,058	2,110	2,307	1,765	2,206
Other Paid-in Capital	1,780	1,903	1,766	1,223	798	837	1,342
Total Common Equity	8,187	8,329	6,632	4,830	5,037	4,476	5,096
Preferred Stock	690	770	439	398	451	448	359
Total Capital Stock	8,877	9,099	7,071	5,228	5,488	4,924	5,455
Bonds	2,386	2,307	1,352	1,179	1,344	1,337	397
Debentures	2,526	2,546	1,537	1,299	1,265	1,438	2,857
Other Long-Term Debt	1,611	1,538	1,940	1,715	1,605	1,657	1,582
Total Long-Term Debt	6,523	6,391	4,829	4,193	4,214	4,432	4,837
Total Capitalization	15,400	15,490	11,900	9,421	9,702	9,356	10,292
Current and Accrued Liabilities	6,516	5,731	6,401	3,424	4,056	4,206	5,823
Deferred Credits	726	938	982	596	691	895	832
Non-Current Liabilities[b]	83	83	133	22	59	97	55
Contributions in Aid of Construction	51	48	c	c	c	c	c
Accumulated Deferred Income Taxes[d]	1,797	1,687	1,104	929	1,399	1,477	2,056
Total Liabilities	24,573	23,977	20,520	14,392	15,907	16,031	19,058

a. First year this category is broken out is 1985.

b. Formerly called "Operating Reserves."

c. Less than $500,000.

d. Includes "Reserves for Deferred Income Taxes."

Note: Data not directly comparable from year to year due to acquisitions and mergers. See page ix.

BALANCE SHEETS

TABLE 13-5
COMPOSITE BALANCE SHEET ACCOUNTS INVESTOR-OWNED GAS UTILITY INDUSTRY COMBINATION COMPANIES, 1983-1989

(Millions)

	1983	1984	1985	1986	1987	1988	1989
ASSETS							
Electric	$130,259	$127,337	$107,117	$110,397	$123,697	$138,238	$134,262
Gas	14,385	14,837	15,552	16,723	17,240	18,358	20,220
Other	4,759	5,102	5,338	6,162	7,995	6,218	6,545
Total Utility Plant	149,403	147,276	128,007	133,282	148,932	162,814	161,027
Construction Work in Progress[a]	0	0	32,611	26,248	17,411	12,802	9,740
Less Accum. Prov. for Depr. and Amort.	33,971	35,225	38,898	40,329	43,738	49,401	51,720
Net Utility Plant	115,432	112,051	121,720	119,201	122,605	126,215	119,047
Gas Stored Underground (Non-Current)[b]	0	0	140	148	194	197	196
Investment and Fund Accounts	3,894	4,098	4,686	5,093	5,322	7,456	9,090
Current and Accrued Assets	14,615	15,923	16,921	15,919	14,967	15,711	17,086
Deferred Debits	4,474	9,335	9,124	10,161	11,851	12,463	14,816
Total Assets	138,415	141,407	152,591	150,522	154.939	162,042	160,235
LIABILITIES							
Common Stock	17,899	18,364	20,382	18,995	19,913	20,833	20,524
Retained Earnings	15,493	16,754	18,218	18,895	17,651	16,736	16,761
Other Paid-in Capital	11,777	10,887	11,780	12,396	12,508	13,357	13,268
Total Common Equity	45,169	46,005	50,380	50,286	50,072	50,926	50,553
Preferred Stock	13,234	12,258	11,980	10,413	9,637	9,620	8,769
Total Capital Stock	58,403	58,263	62,360	60,699	59,709	60,546	59,322
Bonds	42,284	41,905	43,834	41,573	42,739	43,196	41,123
Debentures	785	1,103	1,361	1,962	1,753	2,312	3,531
Other Long-Term Debt	8,010	8,317	9,394	9,587	10,375	12,712	13,372
Total Long-Term Debt	51,079	51,325	54,589	53,122	54,867	58.220	58,026
Total Capitalization	109,482	109,588	116,949	113,821	114,576	118,766	117,348
Current and Accrued Liabilities	14,929	15,285	16,477	16,139	15,826	16,063	17,194
Deferred Credits	6,237	7,091	8,326	7,925	9,135	11,152	10,110
Non-Current Liabilities[c]	113	1,644	1,123	1,222	1,471	1,330	1,170
Contribution in Aid of Construction	57	61	64	76	72	53	57
Accumulated Deferred Income Taxes[d]	7,597	7,738	9,652	11,339	13,859	14,678	14,356
Total Liabilities	138,415	141,407	152,591	150,522	154,939	162,042	160,235

a. First year this category is broken out is 1985. Formerly included under the corresponding plant category.
b. First year this category is broken out is 1985.
c. Formerly called "Operating Reserves."
d. Includes "Reserves for Deferred Income Taxes."
Note: Data not directly comparable from year to year due to acquisitions and mergers. See page ix.

TABLE 13-6
TOTAL GAS UTILITY INDUSTRY PLANT BY TYPE OF COMPANY AND BY PLANT FUNCTION, 1975–1989

(Millions)

	1975	1980	1985	1986	1987	1988^R	1989
Total Industry							
Total Gas Utility Plant	**$51,004**	**$69,275**	**$88,717**	**$92,159**	**$95,952**	**$103,949**	**$108,396**
Production	4,776	8,199	10,511	8,534	8,827	8,771	7,773
Underground Storage	2,697	4,529	4,305	4,545	4,500	4,739	4,656
Other Storage	700	672	717	733	659	486	435
LNG	a	284	262	269	285	475	709
Transmission	20,530	25,418	33,969	35,431	36,448	39,092	41,156
Distribution	19,151	24,923	33,397	36,115	38,628	42,833	45,158
General and Intangible[b]	2,226	3,470	4,438	5,312	5,076	5,725	6,263
Construction Work in Progress	924	1,780	1,118	1,220	1,529	1,828	2,246
Total Investor-Owned Industry							
Total Gas Utility Plant	**$49,384**	**$67,071**	**$86,547**	**$89,887**	**$93,540**	**$99,933**	**$105,556**
Production	4,687	8,019	10,347	8,277	8,573	8,442	7,482
Underground Storage	2,639	4,451	4,286	4,524	4,478	4,686	4,633
Other Storage	648	632	617	634	558	452	418
LNG	a	273	241	248	264	417	602
Transmission	20,307	25,298	33,930	35,392	36,402	38,990	41,107
Distribution	18,080	23,343	31,906	34,538	36,967	39,821	43,161
General and Intangible[b]	2,125	3,334	4,155	5,112	4,857	5,398	6,007
Construction Work in Progress	896	1,721	1,065	1,162	1,441	1,727	2,146
Distribution Companies							
Total Gas Utility Plant	**$8,547**	**$10,990**	**$17,383**	**$17,911**	**$19,320**	**$20,988**	**$25,098**
Production	387	539	656	509	629	625	478
Underground Storage	460	627	572	566	556	571	851
Other Storage	172	140	200	198	183	149	128
LNG	b	91	151	156	162	253	221
Transmission	425	338	581	518	536	631	1,051
Distribution	6,452	8,569	13,720	14,377	15,454	16,671	20,121
General and Intangible[b]	479	599	1,308	1,389	1,526	1,742	1,844
Construction Work in Progress	173	87	195	198	274	346	404
Transmission Companies							
Total Gas Utility Plant	**$20,351**	**$30,334**	**$39,076**	**$42,668**	**$42,810**	**$45,800**	**$43,478**
Production	2,650	5,098	7,204	6,465	6,301	6,305	5,237
Underground Storage	1,299	2,340	2,325	2,606	2,571	2,904	2,424
Other Storage	113	175	143	203	156	123	130
LNG	a	160	41	42	37	40	29
Transmission	15,322	20,194	27,400	30,564	31,464	33,727	32,546
Distribution	5	7	6	0	5	5	7
General and Intangible[b]	587	1,204	1,583	2,340	1,704	2,007	2,020
Construction Work in Progress	375	1,156	374	448	572	689	1,085
Integrated Companies							
Total Gas Utility Plant	**$10,960**	**$13,756**	**$14,203**	**$12,236**	**$13,808**	**$14,380**	**$16,760**
Production	1,240	1,914	1,937	752	1,097	978	1,244
Underground Storage	531	961	916	842	881	728	876
Other Storage	62	103	85	51	43	0	0
LNG	a	14	5	6	5	41	254
Transmission	3,418	3,308	4,026	2,304	2,736	2,873	5,205
Distribution	4,809	6,191	6,338	7,382	7,877	8,543	7,653
General and Intangible[b]	748	1,029	733	733	936	931	1,332
Construction Work in Progress	151	236	163	166	233	286	196
Combination Companies							
Total Gas Utility Plant	**$9,526**	**$11,991**	**$15,885**	**$17,072**	**$17,602**	**$18,765**	**$20,220**
Production	410	468	550	551	546	534	523
Underground Storage	348	523	473	510	470	483	482
Other Storage	301	214	189	182	176	180	160
LNG	a	8	44	44	60	83	98
Transmission	1,144	1,458	1,923	2,006	1,666	1,759	2,305
Distribution	6,816	8,576	11,842	12,779	13,631	14,602	15,380
General and Intangible[b]	310	502	531	650	691	718	811
Construction Work in Progress	197	242	333	350	362	406	461

a. Not available.

b. Includes plant acquisition adjustments and plant adjustments.

R–Revised.

Note: Data not directly comparable from year to year due to acquisitions and mergers. See page ix.

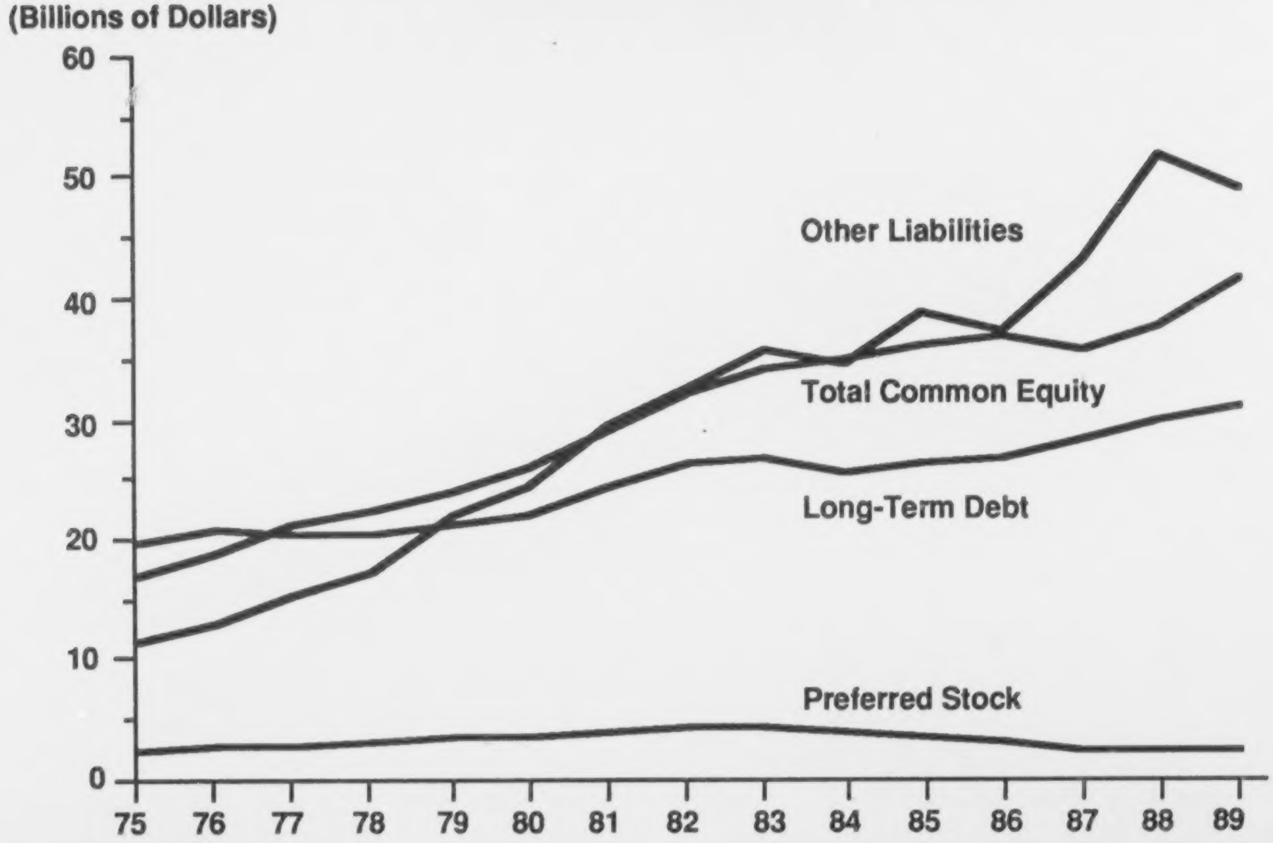
SECTION 14
ANALYTICAL RATIOS

	1989	% Change 89/88
Capitalization Represented by (%)		
Long-term Debt	41.3	− 3.7
Preferred Stock	2.9	− 6.5
Common Equity	55.8	+ 3.3

The analytical ratios in this section have been calculated on a consistent basis for all years. These ratios are considered to be an acceptable set of indicators which provide trends on the condition of the investor-owned gas utility industry. Please contact the statistics department at A.G.A. for details of the formulas used to calculate these analytical ratios.

CHART 13-1

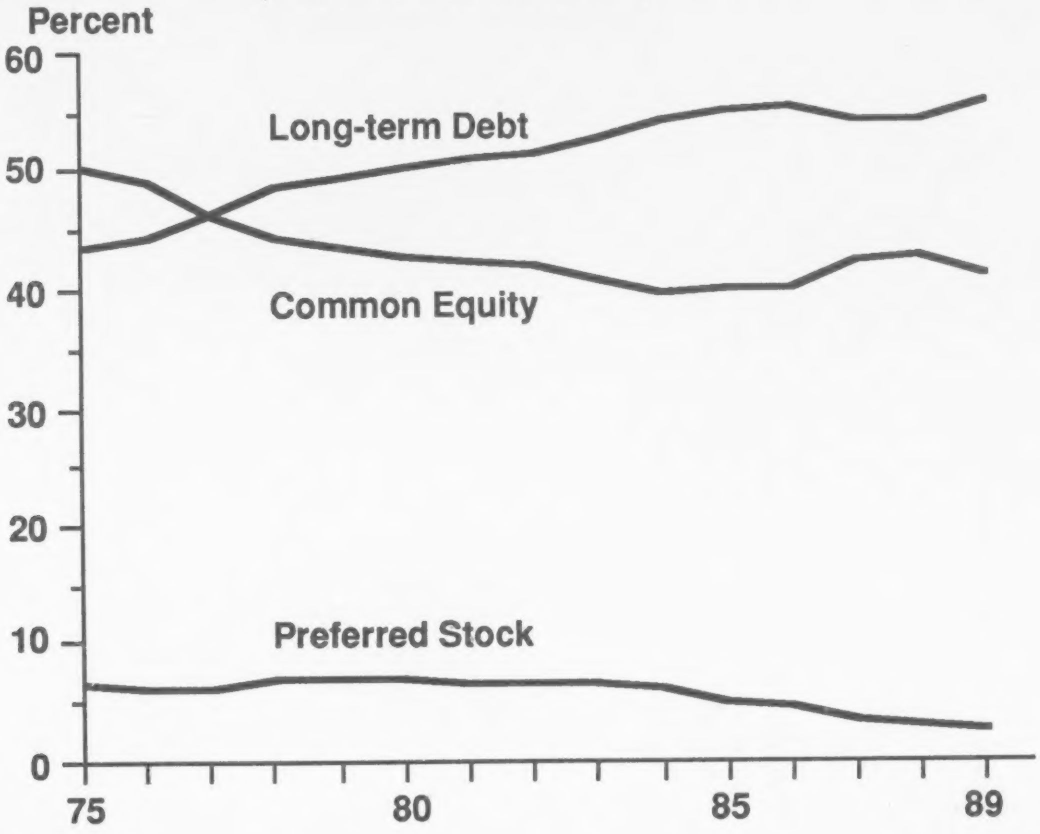
GAS UTILITY INDUSTRY INVESTMENT
(INVESTOR-OWNED)



REFERENCE: TABLE 13-1

CHART 14-1

GAS UTILITY INDUSTRY TOTAL CAPITALIZATION
(INVESTOR OWNED)



REFERENCE: TABLE 14-1

ANALYTICAL RATIOS

TABLE 14-1
SELECTED COMPOSITE ANALYTICAL RATIOS
INVESTOR-OWNED GAS UTILITY INDUSTRY
TOTAL INDUSTRY, 1975-1989

	1975	1980	1985	1986	1987	1988[R]	1989
Earnings							
Utility Operating Income as % of Total Plant	6.5	6.7	7.0	6.6	5.8	5.2	5.8
Utility Operating Income as % of Net Plant	9.9	10.9	12.0	11.2	10.4	9.1	10.4
Operating Revenue as % of Total Plant	61.9	128.1	120.1	90.1	74.4	69.8	66.4
Common Dividend Payout Ratio	57.2	58.2	108.2	116.3	118.1	93.6	65.1
Return on Common Equity	13.7	15.2	9.3	8.2	7.4	8.3	10.5
Return on Average Common Equity	14.3	15.8	9.5	8.3	7.3	8.5	11.0
Return on Net Plant	7.1	9.5	6.7	5.7	5.1	5.6	7.4
Pretax Coverage of:							
Total Interest Expense[a]	3.3	3.5	3.0	2.6	2.3	2.1	2.5
Long-Term Debt Interest Expense[a]	3.8	4.6	3.8	3.5	3.2	3.3	3.4
Allowance for Funds Used During Construction as % of Net Income	5.2	7.6	7.0	6.0	4.6	4.2	3.7
Expenses							
Operating Expenses as % of Operating Revenue	90.0	95.2	94.6	93.2	92.6	92.7	91.4
Maintenance Expenses as % of Total Plant	1.4	1.8	1.9	1.9	1.8	1.8	1.7
Depreciation Expenses as % of Total Plant	3.6	3.6	3.7	3.7	3.4	3.4	3.2
Depreciation Expenses as % of Depreciable Plant	3.6	4.1	3.7	3.8	3.5	3.5	3.3
Total Taxes as % of Total Plant	5.6	7.2	7.6	6.8	5.5	4.2	4.6
Total Taxes as % of Net Plant	8.5	11.8	13.1	11.5	9.9	7.6	8.2
Total Taxes as % of Net Income plus Total Taxes	53.9	53.6	63.5	64.4	63.5	55.9	51.1
Current Federal Income Tax as % of Net Income plus current Federal Income Tax[b]	30.4	27.4	40.0	34.3	32.7	24.3	17.6
Plant							
Total Plant as % of Total Operating Revenue	161.6	78.1	83.3	111.0	134.5	143.3	150.7
Net Plant as % of Total Operating Revenue	106.7	47.6	48.3	65.6	75.3	79.6	83.8
Depreciation Reserve as % of Total Plant	34.0	39.0	42.0	40.9	44.0	44.5	44.4
Depreciation Reserve as % of Depreciable Plant	35.8	44.0	43.1	42.4	45.1	45.4	44.8
Total Plant per Employee ($000)	251.6	328.1	423.2	444.9	477.2	521.0	551.6
Capitalization							
Long-term Debt as % of Net Plant	59.4	53.9	52.4	50.4	53.6	54.0	52.3
% Total Capitalization Represented by:							
a. Long-term Debt	50.1	42.9	40.0	40.1	42.4	42.9	41.3
b. Preferred Stock	6.5	7.1	5.2	4.6	3.6	3.1	2.9
c. Common Equity	43.4	50.0	54.8	55.3	54.0	54.0	55.8
% Current Year Financing of Construction Expenditures Represented by:							
a. Internal Sources	53.8	55.3	71.8	63.5	62.4	64.8	63.1
b. Equity Issues	11.9	11.2	7.9	4.7	5.8	6.2	4.3
c. Debt Issues	34.3	33.5	20.3	31.8	31.8	29.0	32.6

a. Reflects pre-federal income tax coverage.

b. Includes "Investment Tax Credit Adjustment."

R–Revised.

TABLE 14-2
SELECTED COMPOSITE ANALYTICAL RATIOS INVESTOR-OWNED GAS UTILITY INDUSTRY DISTRIBUTION COMPANIES, 1983-1989

	1983	1984	1985	1986	1987	1988[R]	1989
Earnings							
Utility Operating Income as % of Total Plant	7.4	7.7	7.3	6.6	6.4	6.7	6.6
Utility Operating Income as % of Net Plant	10.9	11.5	10.7	9.9	9.4	9.8	9.7
Operating Revenue as % of Total Plant	151.6	145.0	123.7	102.5	85.5	79.4	74.8
Common Dividend Payout Ratio	67.1	67.1	81.3	104.2	83.5	67.7	70.3
Return on Common Equity	14.0	15.7	14.0	12.0	11.6	13.5	13.3
Return on Average Common Equity	15.1	16.3	a	a	12.1	a	a
Return on Net Plant	6.6	7.4	6.7	5.4	5.2	6.4	6.3
Pretax Interest Coverage of:							
Total Interest Expense[b]	3.3	3.8	3.6	3.1	3.1	3.2	3.2
Long-Term Debt Interest Expense[b]	3.9	4.5	4.3	3.7	3.7	4.1	3.6
Allowance for Funds Used During Construction as % of Net Income	2.3	1.8	1.1	1.3	2.1	2.3	2.4
Expenses							
Operating Expenses as % of Operating Revenue	95.2	94.8	94.2	93.6	92.6	91.6	91.2
Maintenance Expenses as % of Total Plant	2.5	2.5	2.4	2.4	2.2	2.1	2.1
Depreciation Expenses as % of Total Plant	3.4	3.3	3.3	3.5	3.3	3.3	3.4
Depreciation Expenses as % of Depreciable Plant	3.4	3.4	3.4	3.6	3.3	3.3	2.9
Total Taxes as % of Total Plant	11.2	11.7	10.8	9.7	8.0	7.0	6.5
Total Taxes as % of Net Plant	16.5	17.5	16.0	14.4	11.9	10.3	9.6
Total Taxes as % of Net Income plus Total Taxes	70.3	69.1	69.4	71.6	68.5	60.8	59.6
Current Federal Income Tax as % of Net Income plus current Federal Income Tax[c]	28.8	40.6	33.4	38.6	37.2	27.5	22.4
Plant							
Total Plant as % of Total Operating Revenue	66.0	69.0	80.8	97.6	117.0	125.9	133.8
Net Plant as % of Total Operating Revenue	44.7	46.1	54.6	65.8	79.0	85.6	90.1
Depreciation Reserve as % of Total Plant	32.2	33.1	32.4	32.6	32.5	32.1	32.6
Depreciation Reserve as % of Depreciable Plant	32.8	33.9	33.2	33.1	33.2	32.8	28.6
Total Plant per Employee ($000)	241.4	259.2	281.3	301.9	325.0	352.3	391.7
Capitalization							
Long-term Debt as % of Net Plant	40.5	39.1	38.0	40.2	38.8	41.4	39.5
% Total Capitalization Represented by:							
a. Long-term Debt	44.1	43.1	42.4	45.5	44.6	45.0	44.0
b. Preferred Stock	4.9	4.6	4.2	3.6	3.4	3.0	3.4
c. Common Equity	51.0	52.3	53.4	50.9	52.0	52.0	52.6
% Current Year Financing of Construction Expenditures Represented by:							
a. Internal Sources	65.2	78.0	73.1	52.9	56.9	47.4	67.6
b. Equity Issues	14.8	7.3	4.9	7.9	14.6	14.4	7.1
c. Debt Issues	20.0	14.7	22.0	39.2	28.5	38.2	25.2

a. Not available.
b. Reflects pre-federal income tax coverage.
c. Includes "Investment Tax Credit Adjustment."
R–Revised.

ANALYTICAL RATIOS

TABLE 14-3
SELECTED COMPOSITE ANALYTICAL RATIOS
INVESTOR-OWNED GAS UTILITY INDUSTRY
TRANSMISSION COMPANIES, 1975-1989

	1975	1980	1985	1986	1987	1988[R]	1989
Earnings							
Utility Operating Income as % of Total Plant	6.8	6.7	5.9	6.0	4.9	3.3	5.0
Utility Operating Income as % of Net Plant	11.7	12.7	12.9	12.6	11.9	8.1	12.0
Operating Revenue as % of Total Plant	58.5	137.2	117.0	79.4	63.7	57.8	54.9
Common Dividend Payout Ratio	50.9	56.3	124.5	167.4	189.2	96.4	53.3
Return on Common Equity	14.9	15.6	8.5	5.4	4.4	6.7	9.8
Return on Average Common Equity	15.8	16.4	8.5	b	4.2	6.9	b
Return on Net Plant	10.1	13.8	8.9	5.6	4.9	7.4	12.3
Pretax Coverage of:							
Total Interest Expense[a]	3.6	3.9	2.9	2.3	1.8	1.7	2.4
Long-Term Debt Interest Expense[a]	4.3	5.2	3.7	3.2	2.7	3.0	3.5
Allowance for Funds Used During Construction of % of Net Income	3.0	5.4	2.5	2.7	3.3	3.2	2.9
Expenses							
Operating Expenses as % of Operating Revenue	88.8	95.4	95.3	93.2	93.0	94.2	91.2
Maintenance Expenses as % of Total Plant	0.9	1.3	1.3	1.4	1.3	1.3	1.4
Depreciation Expenses as % of Total Plant	4.4	4.1	3.8	3.9	3.4	3.4	2.8
Depreciation Expenses as % of Depreciable Plant	4.4	4.5	3.8	4.1	3.5	3.4	3.1
Total Taxes as % of Total Plant	5.0	6.6	5.1	4.5	3.2	1.3	2.3
Total Taxes as % of Net Plant	8.6	12.5	11.0	9.5	7.8	3.1	5.5
Total Taxes as % of Net Income plus Total Taxes	44.6	46.1	53.0	59.3	57.6	28.4	30.2
Current Federal Income Tax as % of Net Income plus current Federal Income Tax[c]	35.6	28.4	39.6	39.3	16.5	8.8	10.1
Plant							
Total Plant as % of Total Operating Revenue	171.0	72.9	85.4	125.9	157.0	172.9	182.1
Net Plant as % of Total Operating Revenue	98.5	38.4	39.2	60.1	64.8	71.5	75.4
Depreciation Reserve as % of Total Plant	42.4	47.3	54.1	52.2	58.7	58.7	58.7
Depreciation Reserve as % of Depreciable Plant	43.8	52.1	55.5	54.3	59.9	59.2	63.6
Total Plant per Employee ($000)	547.1	673.1	844.0	895.8	967.0	1,069.5	1,170.9
Capitalization							
Long-term Debt as % of Net Plant	71.8	64.1	64.3	58.8	73.3	70.6	68.3
% Total Capitalization Represented by:							
a. Long-term Debt	48.6	39.4	36.4	34.9	39.3	38.6	35.1
b. Preferred Stock	5.8	6.7	4.3	3.4	1.5	0.9	0.6
c. Common Equity	45.5	53.9	59.3	61.7	59.2	60.5	64.3
% Current Year Financing of Construction Expenditures Represented by:							
a. Internal Sources	55.4	65.1	75.9	69.0	57.9	62.1	64.0
b. Equity Issues	3.7	6.0	0.0	3.8	0.0	0.0	0.0
c. Debt Issues	40.9	28.9	24.1	27.2	42.1	37.9	36.0

a. Reflects pre-federal income tax coverage.
b. Not available.
c. Includes "Investment Tax Credit Adjustment."
R–Revised.

TABLE 14-4
SELECTED COMPOSITE ANALYTICAL RATIOS INVESTOR-OWNED GAS UTILITY INDUSTRY INTEGRATED COMPANIES, 1983-1989

	1983	1984	1985	1986	1987	1988[R]	1989
Earnings							
Utility Operating Income as % of Total Plant	7.5	8.3	7.5	7.5	6.7	6.7	6.4
Utility Operating Income as % of Net Plant	11.7	12.9	12.6	11.6	10.6	10.9	11.0
Operating Revenue as % of Total Plant	140.7	134.5	122.5	100.9	79.3	78.3	68.8
Common Dividend Payout Ratio	74.1	78.7	154.6	79.7	79.5	118.8	72.8
Return on Common Equity	12.8	13.1	5.6	11.9	11.5	8.7	12.0
Return on Average Common Equity	13.2	13.0	a	a	11.8	a	a
Return on Net Plant	8.4	8.8	4.4	7.3	6.6	4.4	6.3
Pretax Coverage of:							
Total Interest Expense[b]	3.4	3.7	2.3	3.0	2.7	2.3	2.3
Long-Term Debt Interest Expense[b]	4.1	4.4	3.5	4.4	4.1	3.7	4.1
Allowance for Funds Used During Construction as % of Net Income	0.9	0.7	1.5	1.0	1.5	2.1	1.4
Expenses							
Operating Expenses as % of Operating Revenue	94.8	93.9	94.0	92.7	91.7	91.4	90.7
Maintenance Expenses as % of Total Plant	2.2	2.3	2.2	2.2	1.9	1.9	1.8
Depreciation Expenses as % of Total Plant	3.7	3.6	4.0	3.1	3.2	3.3	3.5
Depreciation Expenses as % of Depreciable Plant	3.9	3.8	4.0	a	3.3	3.4	3.6
Total Taxes as % of Total Plant	9.2	9.9	8.4	8.4	6.4	6.2	5.4
Total Taxes as % of Net Plant	14.3	15.6	14.1	13.0	10.1	10.1	9.2
Total Taxes as % of Net Income plus Total Taxes	61.3	61.2	71.7	62.7	58.8	67.8	5.8
Current Federal Income Tax as % of Net Income plus current Federal Income Tax[c]	34.4	39.7	51.4	21.3	41.6	40.2	17.3
Plant							
Total Plant as % of Total Operating Revenue	71.1	74.4	81.6	99.1	126.1	127.8	145.3
Net Plant as % of Total Operating Revenue	45.7	47.5	48.6	64.2	79.7	79.0	84.4
Depreciation Reserve as % of Total Plant	35.8	36.1	40.4	35.2	36.8	38.2	41.9
Depreciation Reserve as % of Depreciable Plant	38.0	38.4	40.6	35.9	37.8	38.8	43.0
Total Plant per Employee ($000)	275.1	289.7	328.0	294.6	337.9	355.8	417.3
Capitalization							
Long-term Debt as % of Net Plant	52.7	52.6	37.1	52.9	48.3	49.9	49.7
% Total Capitalization Represented by:							
a. Long-term Debt	42.4	41.2	40.6	44.5	43.4	47.4	47.0
b. Preferred Stock	4.5	5.0	3.7	4.2	4.7	4.8	3.5
c. Common Equity	53.2	53.8	55.7	51.3	51.9	47.8	49.5
% Current Year Financing of Construction Expenditures Represented by:							
a. Internal Sources	69.3	78.5	89.7	66.3	67.0	74.9	57.5
b. Equity Issues	9.7	5.3	3.0	0.4	11.1	0.6	7.2
c. Debt Issues	21.0	16.2	7.3	33.3	21.9	24.5	35.3

a. Not available.
b. Reflects pre-federal income tax coverage.
c. Includes "Investment Tax Credit Adjustment."
R–Revised.

ANALYTICAL RATIOS

TABLE 14-5
SELECTED COMPOSITE ANALYTICAL RATIOS
INVESTOR-OWNED GAS UTILITY INDUSTRY
COMBINATION COMPANIES, 1983–1989

	1983	1984	1985	1986	1987	1988	1989
Gas Operations							
Earnings							
Utility Operating Income as % of Total Plant	8.4	9.3	8.7	7.5	6.8	6.6	6.3
Utility Operating Income as % of Net Plant	12.7	14.3	11.5	10.0	9.3	9.2	9.0
Operating Revenue as % of Total Plant	129.7	129.5	121.5	96.0	84.2	81.8	78.3
Common Dividend Payout Ratio	62.0	52.7	71.6	70.9	89.7	117.7	96.8
Return on Common Equity	17.0	19.2	12.0	12.0	10.1	7.5	8.2
Return on Average Common Equity	17.4	19.8	13.2	c	10.1	c	8.6
Return on Net Plant	6.8	8.1	5.0	5.1	4.2	3.1	3.5
Pretax Coverage of:							
Total Interest Expense[a]	3.3	3.6	3.4	3.1	3.1	2.6	2.5
Long-Term Debt Interest Expense[a]	3.7	4.0	3.7	3.4	3.5	3.0	2.8
Allowance for Funds Used During Construction as % of Net Income	34.5	26.8	28.3	20.1	12.6	12.5	11.2
Expenses							
Operating Expenses as % of Operating Revenue	94.9	94.1	93.9	93.1	92.5	92.4	92.4
Maintenance Expenses as % of Total Plant	2.4	2.4	2.4	2.3	2.3	2.3	2.1
Depreciation Expenses as % of Total Plant	3.3	3.5	3.6	3.7	3.7	3.8	3.8
Depreciation Expenses as % of Depreciable Plant	3.6	3.7	3.7	3.9	3.8	4.1	3.9
Total Taxes as % of Total Plant	9.1	10.1	9.7	8.4	7.8	6.8	6.5
Total Taxes as % of Net Plant	13.8	15.5	12.8	11.2	10.6	9.6	9.4
Total Taxes as % of Net Income plus Total Taxes	63.2	62.2	67.9	65.3	68.5	72.5	67.9
Current Federal Income Tax as % of Net Income plus current Federal Income Tax[b]	20.1	40.1	38.5	28.6	37.8	37.2	31.2
Plant							
Total Plant as % of Total Operating Revenue	77.1	77.2	82.3	104.2	118.7	122.2	127.8
Net Plant as % of Total Operating Revenue	51.1	50.3	62.2	77.6	87.2	87.5	88.8
Depreciation Reserve as % of Total Plant	33.7	34.9	24.4	25.5	26.6	28.4	30.5
Depreciation Reserve as % of Depreciable Plant	36.3	36.5	25.4	26.9	27.7	30.0	31.6
Total Plant per Employee ($000)	280.2	298.3	299.2	318.8	342.1	383.0	406.7
All Operations							
Earnings							
Utility Operating Income as % of Total Plant	7.9	8.0	7.6	7.3	6.5	6.8	6.8
Utility Operating Income as % of Net Plant	10.2	10.5	10.0	9.8	8.8	9.4	9.8
Operating Revenue as % of Total Plant	40.8	42.1	52.3	36.9	34.2	34.6	36.3
Common Dividend Payout Ratio	68.6	63.7	74.1	69.6	110.4	117.6	86.2
Return on Common Equity	13.5	13.8	11.8	12.6	8.3	7.7	9.8
Return on Average Common Equity	14.4	13.9	12.3	c	8.3	7.8	9.8
Return on Net Plant	5.3	5.7	4.9	5.3	3.4	3.1	4.2
Pretax Coverage of:							
Total Interest Expense[a]	3.1	3.2	3.0	3.2	2.9	2.2	2.5
Long-Term Debt Interest Expense[a]	3.4	3.5	3.3	3.5	3.2	2.4	2.8
Allowance for Funds Used During Construction as % of Net Income	41.5	34.8	37.2	26.6	22.7	18.9	13.6
Expenses							
Operating Expenses as % of Operating Revenue	85.6	85.2	84.9	83.5	83.0	81.8	82.5
Maintenance Expenses as % of Total Plant	2.1	2.2	2.2	2.2	2.2	2.3	2.3
Depreciation Expenses as % of Total Plant	2.4	2.6	2.6	2.7	2.8	3.1	3.6
Depreciation Expenses as % of Depreciable Plant	3.4	3.5	3.5	3.4	3.2	3.3	4.0
Total Taxes as % of Total Plant	5.6	6.2	5.9	6.1	5.4	4.7	4.6
Total Taxes as % of Net Plant	7.3	8.1	7.8	8.1	7.3	6.5	6.6
Total Taxes as % of Net Income plus Total Taxes	54.0	55.2	57.7	57.1	64.5	63.8	54.5
Current Federal Income Tax as % of Net Income plus current Federal Income Tax[b]	23.2	27.4	28.5	25.7	33.4	30.6	24.3
Plant							
Total Plant as % of Total Operating Revenue	245.4	237.4	252.4	270.8	292.7	289.2	275.5
Net Plant as % of Total Operating Revenue	189.6	180.6	191.2	202.3	215.7	207.8	192.0
Depreciation Reserve as % of Total Plant	22.7	23.9	24.2	25.3	26.3	28.1	30.3
Depreciation Reserve as % of Depreciable Plant	32.1	32.3	32.0	32.1	30.4	30.0	33.9
Capitalization							
Long-term Debt as % of Net Plant	44.3	45.8	44.8	44.6	44.8	46.1	48.7
% Total Capitalization Represented by:							
a. Long-term Debt	46.7	46.8	46.7	46.7	47.9	49.0	49.4
b. Preferred Stock	12.1	11.2	10.2	9.1	8.4	8.1	7.5
c. Common Equity	41.3	42.0	43.1	44.2	43.7	42.9	43.1
% Current Year Financing of Construction Expenditures Represented by:							
a. Internal Sources	54.7	45.4	52.3	60.7	72.4	76.1	59.7
b. Equity Issues	18.6	20.2	28.6	6.5	6.4	8.2	4.6
c. Debt Issues	26.7	34.4	19.1	32.8	21.2	15.7	35.7

a. Reflects pre-federal income tax coverage.
b. Includes "Investment Tax Credit Adjustment."
c. Not available.

SECTION 15
SECURITY ISSUES

	1989	% Change 89/88
No. of Issues		
Total	326	− 7.8
Common Stock	163	+ 1.2
Preferred	11	−15.4
Debt Issues	152	− 3.2
Amount		
(Thousands)		
Total	$13,201,344	− 9.4
Common Stock	2,400,699	+17.9
Preferred Stock	857,000	+93.3
Debt Issues	9,943,645	+ 7.0

TABLE 14-6
SELECTED ANALYTICAL RATIOS RELATING TO INVESTOR-OWNED GAS UTILITY INDUSTRY OPERATING AND MAINTENANCE EXPENSES, 1980–1989[a]

	Total Operating and Maintenance Expense per Therm of Sales (cents)					Total Operating Revenue per Therm of Sales (cents)				
Type of Activity	1980	1985	1987	1988	1989	1980	1985	1987	1988	1989
Natural Gas Distribution[b]	29.37	46.65	39.95	39.47	40.76	34.82	56.68	50.68	50.36	52.13
Natural Gas Transmission	22.12	35.62	29.79	31.81	34.82	25.23	40.57	36.08	36.90	42.16

	Transmission and Distribution Expense per Mile of Pipe (dollars)					Total Cost of Purchases as Percent of Total Operating and Maintenance Expense (%)				
Type of Activity	1980	1985	1987	1988	1989	1980	1985	1987	1988	1989
Natural Gas Distribution[b]	2,666.68	3,396.86	3,576.91	3,744.18	4,018.38	85.80	84.21	77.33	76.64	75.97
Natural Gas Transmission	11,510.06	13,899.46	11,064.36	11,321.37	11,315.47	90.66	87.12	78.00	76.82	73.15

	Customer Accounts Expense Per Customer (dollars)					Total Payroll as Percent of Total Operating and Maintenance Expense (%)				
Type of Activity	1980	1985	1987	1988	1989	1980	1985	1987	1988	1989
Natural Gas Distribution[b]	22.68	33.33	32.65	33.69	33.25	9.05	8.92	12.41	13.02	13.11
Natural Gas Transmission						2.97	4.10	6.73	6.87	7.32

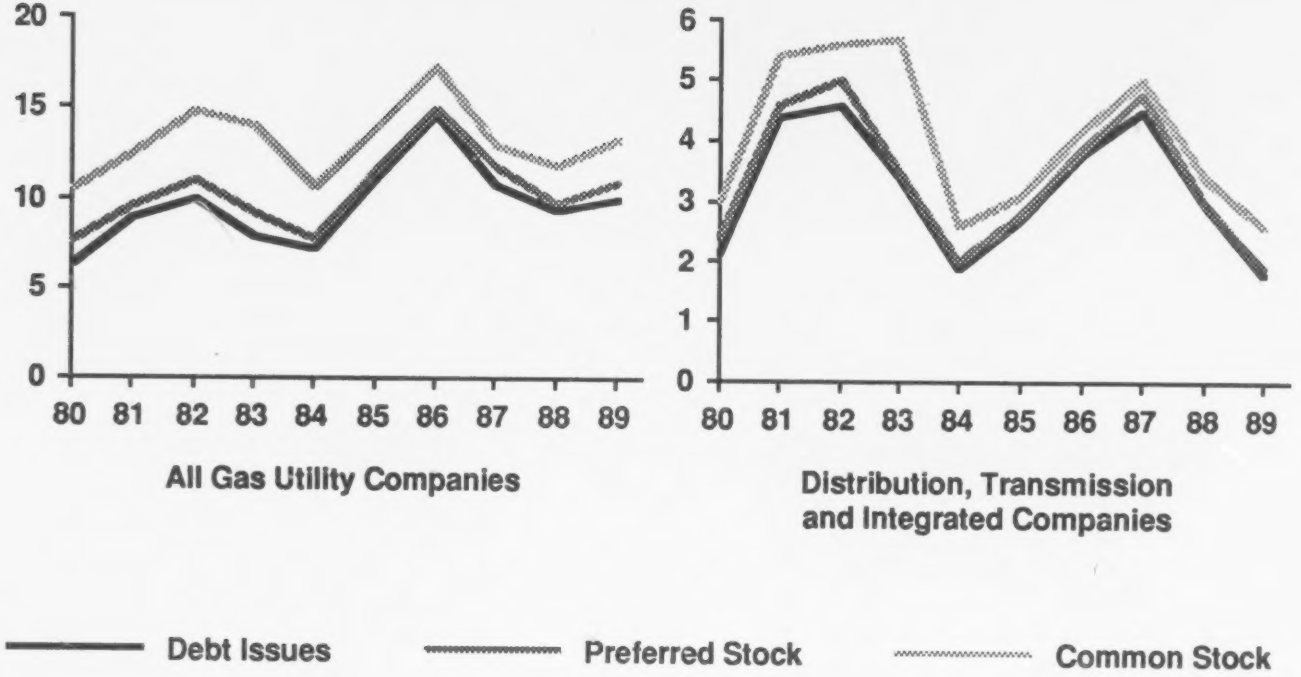
	Gross Sales Expense per Customer (dollars)				
Type of Activity	1980	1985	1987	1988	1989
Straight Natural Gas Distribution	2.94	4.95	5.19	6.25	5.36
Combination Natural Gas Distribution	0.60	1.07	1.54	2.11	2.25

a. Integrated companies excluded.
b. Includes both straight gas and combination companies.

CHART 15-1

GAS UTILITY NEW SECURITY ISSUES

(BILLIONS OF DOLLARS)



REFERENCE: TABLES 15-1, 15-4, 15-6, 15-8, 15-10, 15-12

TABLE 15-1
GAS UTILITY INDUSTRY SECURITY ISSUES
OF DISTRIBUTION, INTEGRATED, TRANSMISSION, HOLDING,[a] AND COMBINATION GAS AND ELECTRIC COMPANIES
1970-1989[b]

Year	Total		Common Stock		Preferred Stock		Debt Issues							
							Total		Bonds		Debentures		Notes	
	No. of Issues	Amount (000)	No. of Issues	Amount (000)	No. of Issues	Amount (000)	No. of Issues	Amount (000)	No. of Issues	Amount (000)	No. of Issues	Amount (000)	No. of Issues	Amount (000)
1970	280	$ 6,030,084	68	$ 745,638	33	$ 620,674	179	$ 4,663,772	125	$ 3,502,000	27	$ 897,500	27	$ 264,272
1971	330	7,012,900	96	1,283,271	47	965,439	187	4,764,190	103	3,193,366	26	927,500	58	643,324
1972	280	6,832,495	83	1,306,307	39	1,185,808	158	4,340,380	87	3,032,306	13	554,500	58	753,574
1973	286	6,302,378	96	1,408,410	39	1,073,959	151	3,820,009	82	2,466,690	6	260,000	63	1,093,319
1974	286	7,889,359	102	1,144,544	39	1,128,175	145	5,616,640	78	3,950,281	17	739,519	50	926,840
1975	353	8,312,575	141	1,973,385	42	1,059,396	170	5,279,794	101	3,661,125	19	911,571	50	707,098
1976	336	9,104,026	152	2,472,747	41	1,108,268	143	5,523,011	75	2,899,279	16	860,500	52	1,763,232
1977	336	8,244,438	167	1,864,904	40	1,106,130	129	5,273,404	70	2,956,200	10	461,500	49	1,855,704
1978	351	7,933,090	163	2,167,077	48	1,055,458	140	4,710,555	73	3,189,650	12	306,516	55	1,214,389
1979	322	7,959,649	162	1,860,954	30	773,692	130	5,325,003	69	2,908,350	11	895,000	50	1,521,653
1980	275	10,508,334	101	2,879,775	31	1,288,237	143	6,340,322	73	3,571,945	18	1,510,000	52	1,258,377
1981	472	12,384,931	246	2,816,829	27	654,940	199	8,913,162	110	5,051,554	16	1,207,500	73	2,654,108
1982	523	14,794,327	287	3,832,926	32	1,073,300	204	9,888,101	107	4,538,410	20	1,356,000	77	3,993,691
1983	499	14,014,964	275	4,855,205	29	1,301,151	145	7,858,608	86	4,651,154	12	1,024,703	47	2,182,751
1984	386	10,596,488	229	2,852,559	13	538,000	144	7,205,929	90	4,452,571	12	838,250		1,915,108
1985	415	13,893,132	222	2,428,977	12	325,701	181	11,138,454	85	6,131,774	9	770,015	87	4,236,665
1986	415	17,218,513	186	1,906,278	15	596,318	214	14,715,917	126	9,628,924	28	2,586,000	60	2,500,993
1987	359	12,994,680	182	1,324,596	20	1,001,299	157	10,668,785	66	4,403,166	21	2,664,530	70	3,601,089
1988	331	11,773,337	161	2,036,077	13	443,290	157	9,293,970	72	4,906,629	14	1,298,146	71	3,089,195
1989	326	13,201,344	163	2,400,699	11	857,000	152	9,943,645	48	3,023,579	15	2,658,000	89	4,262,066

a. Holding companies used in this section are as follows: Columbia Gas Systems, Inc., Commonwealth Energy System, Connecticut Energy Corp., Consolidated Natural Gas, Energen, New Jersey Resources Corp., NIPSCO Industries, Inc., Northern States Power Company, Pacific Enterprises, Public Service Company of Colorado, Southeastern Michigan Enterprises, Sonat, Inc., Tenneco, Inc., Texas Utilities Company, Utilicorp United, Inc., Wisconsin Electric Power Company, and Yankee Energy Systems.

b. All new and refunding security issues, except sales by subsidiaries to parent companies and direct exchanges for which data were obtainable have been included. Short term notes for less than one year are omitted. Bonds, debentures, and notes are included in principal amounts; preferred stocks at stated or liquidating values; and common stocks at offerings prices.

TABLE 15-3
GAS UTILITY INDUSTRY LONG TERM DEBT ISSUES, BY MOODY'S BOND RATING CATEGORY, 1989

	Issues		Cost %		Yield %	
Rating	Number	Sample Amount (000)	Average	Weighted Average	Average	Weighted Average
Aaa	1	$ 60,000	9.24	9.24	9.16	9.16
Aa	7	$485,000	8.87	9.05	8.80	8.97
A	5	$525,000	9.81	9.97	9.70	9.82
Baa	8	$790,000	9.39	9.56	9.44	9.50
Ba	•	•	•	•	•	•
B	•	•	•	•	•	•

•No issues used in this sample.

TABLE 15–4
GAS UTILITY INDUSTRY COMMON STOCK ISSUES, BY TYPE OF COMPANY
1983–1989[a]

Type of Company	1983	1984	1985	1986	1987	1988	1989
Total							
Amount (000)	$4,855,205	$2,852,559	$2,428,977	$1,906,278	$1,324,596	$2,036,077	$2,400,699
No. of Issues	275	229	222	186	182	161	163
Distribution							
Amount (000)	$272,950	$224,065	$304,841	$300,911	$109,011	$247,391	$334,951
No. of Issues	43	34	62	65	67	58	59
Transmission							
Amount (000)	$159,889	$35,625	$300	$1,000	$6,973	$32,014	$187,500
No. of Issues	7	1	1	1	4	2	1
Integrated							
Amount (000)	$1,835,208	$334,095	$35,023	$26,593	$76,820	$96,674	$140,323
No. of Issues	34	39	16	10	16	18	24
Combination Utilities							
Amount (000)	$2,394,543	$1,742,913	$1,767,779	$1,469,309	$951,863	$1,094,330	$1,217,059
No. of Issues	183	136	121	99	83	66	63
Holding[b]							
Amount (000)	$192,615	$515,861	$321,034	$108,465	$179,929	$565,668	$520,866
No. of Issues	8	19	22	11	12	17	16

a. See Footnote "b", Table 15–1 for description of securities included and the derivation of stated amounts.

b. A holding company is a corporation that is formed for the sole purpose of owning stock in other companies. Names of companies included in Footnote "a" of Table 15–1.

SECURITY ISSUES

TABLE 15-5
GAS UTILITY INDUSTRY INDEXES OF COMMON STOCK PRICES, DIVIDENDS, YIELDS, AND EARNINGS BY TYPE OF COMPANY, 1984–1989

Year	1984		1985		1986		1987		1988		1989	
Type of Company — Week	Jun 29	Dec 30	Jun 28	Dec 31	Jul 1	Dec 30	Jun 30	Dec 29	July 1	Dec 30	Jun 30	Dec 29
Natural Gas Industry												
a) Market Price ($ Per Share)	109.88	116.05	135.91	138.65	130.83	122.52	165.38	127.07	144.37	143.08	169.64	198.24
b) Dividend ($ Per Share)	7.44	7.71	7.89	8.12	8.02	7.69	7.61	7.51	7.12	7.40	7.31	7.37
c) Yield (Percent)	6.77	6.64	5.81	5.86	6.13	6.27	4.60	5.91	4.93	5.17	4.31	3.72
d) Earnings ($ Per Share)[a]	14.88	12.46	9.48	8.48	9.48	8.47	3.26	6.68	8.26	6.25	b	b
Distribution Companies												
a) Market Price ($ Per Share)	56.87	69.70	81.61	76.58	95.58	88.66	88.48	75.96	89.63	86.76	99.91	117.05
b) Dividend ($ Per Share)	5.67	5.88	6.03	6.22	5.51	5.71	5.84	6.02	6.13	6.30	6.43	6.54
c) Yield (Percent)	9.97	8.44	7.39	8.12	5.76	6.44	6.60	7.93	6.84	7.22	6.44	5.59
d) Earnings ($ Per Share)[a]	9.99	2.58	2.43	2.42	2.43	7.42	8.37	8.00	9.22	9.37	b	b
Transmission Companies												
a) Market Price ($ Per Share)	137.19	145.38	167.48	175.87	176.25	154.25	194.30	141.81	173.26	178.01	210.36	246.50
b) Dividend ($ Per Share)	9.04	9.39	9.66	9.91	9.93	9.22	9.23	8.86	8.86	8.86	8.86	8.86
c) Yield (Percent)	6.59	6.46	5.77	5.63	5.63	5.97	4.75	6.25	5.11	4.98	4.21	3.59
d) Earnings ($ Per Share)[a]	18.16	17.01	13.70	9.97	13.70	9.97	3.16	4.25	6.99	3.06	b	b

a. Earnings are for twelve month periods.
b. 1989 data not available.
Source: Moody's Investor Service, *Moody's Public Utility News Reports.*

TABLE 15–6
GAS UTILITY INDUSTRY PREFERRED STOCK ISSUES, BY TYPE OF COMPANY
1983–1989[a]

Type of Company	1983	1984	1985	1986	1987	1988	1989
Total							
Amount (000)	$1,301,151	$538,000	$325,701	$596,318	$1,001,299	$443,290	$857,000
No. of Issues	29	13	12	15	20	13	11
Distribution							
Amount (000)	$30,000	$10,000	$361	$22,118	$76,000	$20,290	$15,000
No. of Issues	1	1	3	3	5	2	1
Transmission							
Amount (000)	$0	$0	$20,000	$90,000	$59,174	$0	$0
No. of Issues	0	0	1	1	1	0	0
Integrated							
Amount (000)	$89,494	$100,000	$0	$0	$130,000	$0	$50,000
No. of Issues	5	1	0	0	1	0	1
Combination Utilities							
Amount (000)	$998,922	$428,000	$177,200	$454,200	$305,000	$219,500	$465,000
No. of Issues	19	11	6	10	8	8	4
Holding[b]							
Amount (000)	$182,735	$0	$128,140	$30,000	$431,125	$203,500	$327,000
No. of Issues	4	0	2	1	5	3	5

[a] See Footnote "b", Table 15–1 for description of securities included and the derivation of stated amounts.

[b] A holding company is a corporation that is formed for the sole purpose of owning stock in other companies. Names of companies included in Footnote "a" of Table 15–1.

TABLE 15–8
GAS UTILITY INDUSTRY BOND ISSUES, BY TYPE OF COMPANY
1983–1989[a]

Type of Company	1983	1984	1985	1986	1987	1988	1989
Total							
Amount (000)	$4,651,154	$4,452,571	$6,131,774	$9,628,924	$4,403,166	$4,906,629	$3,023,579
No. of Issues	86	90	85	126	66	72	48
Distribution							
Amount (000)	$493,321	$117,355	$676,729	$798,539	$323,693	$668,168	$200,000
No. of Issues	13	7	20	33	12	23	10
Transmission							
Amount (000)	$225,000	$0	$0	$0	$220,400	$0	$175,000
No. of Issues	2	0	0	0	2	0	1
Integrated							
Amount (000)	$449,103	$227,150	$18,000	$313,000	$60,000	$18,000	$0
No. of Issues	12	6	1	4	1	1	0
Combination Utilities							
Amount (000)	$3,147,730	$3,922,866	$4,682,495	$6,813,105	$3,375,073	$3,111,961	$1,778,779
No. of Issues	52	73	54	72	44	33	26
Holding[b]							
Amount (000)	$336,000	$185,200	$754,550	$1,704,280	$424,000	$1,108,500	$869,800
No. of Issues	7	4	10	17	7	15	11

a. See Footnote "b", Table 15–1 for description of securities included and the derivation of stated amounts.

b. A holding company is a corporation that is formed for the sole purpose of owning stock in other companies. Names of companies included in Footnote "a" of Table 15–1.

TABLE 15-2
GAS UTILITY INDUSTRY AVERAGE PERCENT COST AND YIELD OF SECURITY ISSUES OF DISTRIBUTION, INTEGRATED, TRANSMISSION, HOLDING,[a] AND COMBINATION GAS AND ELECTRIC COMPANIES
1970-1989[b]

	Preferred Stock				Bonds				Debentures				Sample Amount (000)		
	Cost %		Yield %		Cost %		Yield %		Cost %		Yield %				
Year	Average	Weighted Average	Average	Weighted Average	Average	Weighted Average	Average	Weighted Average	Average	Weighted Average	Average	Weighted Average	Preferred Stock	Bonds	Debentures
1970	9.25	9.27	9.16	9.18	9.04	9.08	9.06	9.26	9.16	9.36	9.06	9.26	$ 570,674	$ 3,492,500	$ 897,000
1971	8.16	7.98	8.05	7.87	8.06	7.90	7.97	7.81	8.16	8.14	8.07	8.05	922,312	3,098,589	912,500
1972	7.70	7.65	7.62	7.56	7.60	7.56	7.53	7.50	7.53	7.44	7.46	7.38	1,074,539	2,631,306	455,500
1973	7.72	7.61	7.66	7.54	7.98	7.93	7.91	7.87	7.80	7.77	7.73	7.71	1,051,459	2,137,890	200,000
1974	9.96	9.83	9.82	9.68	9.76	9.84	9.67	9.75	9.48	9.34	9.40	9.25	996,175	3,222,000	535,000
1975	10.87	10.89	10.55	10.53	10.10	10.06	10.00	9.97	10.28	10.31	10.17	10.20	1,028,515	3,346,050	801,000
1976	10.15	9.49	9.16	9.24	8.96	9.01	8.87	8.93	8.88	8.87	8.81	8.80	1,050,268	2,826,590	735,000
1977	8.50	8.45	8.34	8.31	8.51	8.50	8.45	8.44	8.74	8.36	8.63	8.29	973,512	2,682,500	265,000
1978	8.84	8.90	8.75	8.68	8.40	8.18	8.38	8.01	9.26	9.02	9.12	8.89	806,206	2,669,900	150,000
1979	9.05	9.32	9.03	9.23	11.14	10.55	11.12	10.48	10.81	11.12	10.65	11.04	705,500	2,348,300	645,000
1980	11.91	12.40	11.67	12.20	11.99	12.92	11.90	12.82	13.07	12.67	12.97	12.57	935,500	3,038,400	925,000
1981	13.75	14.06	13.57	13.80	15.06	16.55	14.77	16.29	16.24	16.11	15.80	15.76	630,500	3,956,154	1,207,500
1982	14.39	14.61	14.20	14.32	14.39	14.94	14.27	14.82	15.46	15.19	15.17	14.95	858,800	3,914,100	1,356,000
1983	11.69	12.18	11.42	11.85	11.82	12.10	11.63	11.96	12.40	13.54	12.23	13.39	1,209,175	3,958,380	780,000
1984	13.34	13.22	13.11	12.97	12.61	12.99	12.43	12.84	11.82	11.83	11.72	11.72	538,000	3,662,570	786,250
1985	11.68	11.67	11.65	11.67	10.80	11.13	10.47	10.93	11.24	11.58	11.11	11.46	101,000	4,477,947	722,189
1986	9.06	9.50	8.98	9.43	9.30	9.53	9.13	9.43	9.65	10.20	9.47	10.00	523,000	7,679,027	2,566,000
1987	7.50	7.38	7.37	7.34	9.25	9.56	9.18	9.49	9.29	9.26	9.09	9.15	544,174	3,614,455	1,503,500
1988	8.84	8.75	8.76	8.67	9.83	9.75	9.72	9.67	10.15	10.09	9.96	9.95	344,500	3,334,286	1,282,000
1989	8.48	9.59	8.36	9.35	9.11	9.49	9.01	9.39	10.14	10.75	9.93	10.56	630,000	2,536,300	2,658,000

a. Refer to Table 15-1 for name of holding companies.

b. Includes only those preferred stocks, bonds, and debentures shown in Table 15-1 for which necessary cost and yield data were available.

Definitions: "Cost" refers to the expenses incurred by a company relative to new security issues over the life of debt issues and fixed dividends (if applicable) on preferred stocks. It includes underwriter fees, plus discount expenses less premiums.

"Yield" is the rate of return on investment by a buyer of these debt issues and fixed dividends (if applicable) expected on preferred stock. It includes underwriter fees, plus premium expenses less discounts.

TABLE 15-7
GAS UTILITY INDUSTRY AVERAGE PERCENT COST AND YIELD OF PREFERRED STOCK ISSUES
1983-1989[a]

	1983		1984		1985		1986		1987		1988		1989	
	Cost %	Yield %	Cost %	Yield %	Cost %	Yield %	Cost %	Yield %	Cost %	Yield %	Cost %	Yield %	Cost %	Yield %
Total														
Average	11.69	11.42	13.34	13.11	11.68	11.65	9.06	8.98	7.50	7.37	8.84	8.76	8.48	8.36
Weighted Average	12.18	11.85	13.22	12.97	11.67	11.67	9.50	9.43	7.38	7.34	8.75	8.67	9.59	9.35
Sample Amount (000)		$1,209,175		$538,000		$101,000		$523,000		$544,174		$344,500		$630,000
Distribution														
Average	11.76	11.50	12.88	12.88	c	c	c	c	9.28	9.17	8.77	8.77	c	c
Weighted Average	11.76	11.50	12.88	12.88	c	c	c	c	9.49	9.38	8.77	8.77	c	c
Sample Amount (000)		$30,000		$10,000		$0		$0		$50,000		$20,000		$0
Transmission														
Average	c	c	c	c	8.80	8.80	8.75	8.75	6.11	6.11	c	c	c	c
Weighted Average	c	c	c	c	8.80	8.80	8.75	8.75	6.11	6.11	c	c	c	c
Sample Amount (000)		$0		$0		$20,000		$90,000		$59,174		$0		$0
Integrated														
Average	11.16	10.92	10.88	10.62	c	c	c	c	c	c	c	c	6.95	6.85
Weighted Average	11.04	10.81	10.88	10.62	c	c	c	c	c	c	c	c	6.95	6.85
Sample Amount (000)		$85,000		$100,000		$0		$0		$0		$0		$50,000
Combination Utilities														
Average	11.79	11.51	13.60	13.35	12.63	12.60	9.10	9.01	6.79	6.75	9.22	9.16	8.51	8.37
Weighted Average	12.36	12.01	13.78	13.52	12.38	12.37	9.66	9.57	7.20	7.17	9.09	8.99	9.97	9.68
Sample Amount (000)		$995,425		$428,000		$81,000		$433,000		$250,000		$174,500		$465,000
Holding[b]														
Average	11.48	11.27	c	c	c	c	c	c	7.59	7.23	7.72	7.67	9.16	9.11
Weighted Average	11.46	11.26	c	c	c	c	c	c	7.45	7.40	8.34	8.33	9.19	9.10
Sample Amount (000)		$53,750		$0		$0		$0		$185,000		$150,000		$115,000

a. Includes only those issues in Table 15-6 for which necessary cost and yield data were available.
b. A holding company is a corporation that is formed for the sole purpose of owning stock in other companies. Names of companies included in Footnote "a" of Table 15-1.
c. No issues used in this sample.
Definitions: "Cost" refers to the expenses incurred by a company. It includes dividends, underwriter fees, plus discount expenses less premiums.
"Yield" is the rate of return on investment by a buyer.

TABLE 15-9
GAS UTILITY INDUSTRY AVERAGE PERCENT COST AND YIELD OF BOND ISSUES
1983-1989[a]

	1983		1984		1985		1986		1987		1988		1989	
	Cost %	Yield %	Cost %	Yield %	Cost %	Yield %	Cost %	Yield %	Cost %	Yield %	Cost %	Yield %	Cost %	Yield %
Total														
Average	11.82	11.63	12.61	12.43	10.80	10.47	9.30	9.13	9.25	9.18	9.83	9.72	9.11	9.01
Weighted Average	12.10	11.96	12.99	12.84	11.13	10.93	9.53	9.43	9.56	9.49	9.75	9.67	9.49	9.39
Sample Amount (000)		$3,958,380		$3,662,570		$4,477,947		$7,679,027		$3,614,455		$3,334,286		$2,536,300
Distribution														
Average	12.16	12.07	13.41	13.38	10.11	9.11	9.25	9.15	9.63	9.60	9.89	9.73	9.55	9.46
Weighted Average	12.67	12.56	12.81	12.72	9.11	8.80	9.18	9.09	9.28	9.22	9.65	9.55	9.62	9.57
Sample Amount (000)		$350,450		$59,750		$400,200		$571,000		$193,000		$548,025		$185,000
Transmission														
Average	13.04	12.91	c	c	c	c	c	c	c	c	c	c	c	c
Weighted Average	13.04	12.91	c	c	c	c	c	c	c	c	c	c	c	c
Sample Amount (000)		$125,000		$0		$0		$0		$0		$0		$0
Integrated														
Average	12.27	12.13	14.47	14.29	c	c	8.97	9.08	9.22	9.14	c	c	c	c
Weighted Average	12.08	11.97	14.34	14.22	c	c	8.97	9.08	9.22	9.14	c	c	c	c
Sample Amount (000)		$394,000		$110,000		$0		$300,000		$60,000		$0		$0
Combination Utilities														
Average	11.73	11.55	12.46	12.27	10.92	10.53	9.39	9.20	9.20	9.13	10.16	10.04	9.04	8.94
Weighted Average	12.09	11.96	12.92	12.78	11.30	11.10	9.66	9.55	9.59	9.52	9.53	9.45	9.53	9.43
Sample Amount (000)		$2,777,930		$3,367,820		$3,802,747		$6,283,027		$3,027,455		$1,716,261		$1,630,300
Holding[b]														
Average	10.93	10.50	13.88	13.82	11.82	11.75	8.74	8.57	9.18	9.07	10.03	9.97	8.85	8.72
Weighted Average	11.20	10.87	13.61	13.55	11.74	11.66	8.67	8.55	9.59	9.48	10.15	10.08	9.37	9.26
Sample Amount (000)		$311,000		$125,000		$275,000		$525,000		$334,000		$1,070,000		$721,000

a. Includes only those issues in Table 15-8 for which necessary cost and yield data were available.
b. A holding company is a corporation that is formed for the sole purpose of owning stock in other companies. Names of companies included in Footnote "a" of Table 15-1.
c. No issues used in this sample.
Definitions: "Cost" refers to the expenses incurred by a company. It includes dividends, underwriter fees, plus discount expenses less premiums.
"Yield" is the rate of return on investment by a buyer.

TABLE 15–10
GAS UTILITY INDUSTRY DEBENTURE ISSUES, BY TYPE OF COMPANY
1983–1989[a]

Type of Company	1983	1984	1985	1986	1987	1988	1989
Total							
Amount (000)	$1,024,703	$838,250	$770,015	$2,586,000	$2,664,530	$1,298,146	$2,658,000
No. of Issues	12	12	9	28	21	14	15
Distribution							
Amount (000)	$165,000	$0	$0	$316,000	$229,500	$138,146	$5,000
No. of Issues	3	0	0	10	6	4	1
Transmission							
Amount (000)	$324,703	$437,000	$355,750	$650,000	$1,921,030	$450,000	$300,000
No. of Issues	3	6	3	6	9	3	1
Integrated							
Amount (000)	$460,000	$120,000	$224,039	$270,000	$214,000	$360,000	$468,000
No. of Issues	5	3	2	3	4	5	4
Combination Utilities							
Amount (000)	$75,000	$181,250	$190,226	$900,000	$0	$0	$1,475,000
No. of Issues	1	2	4	5	0	0	4
Holding[b]							
Amount (000)	$0	$100,000	$0	$450,000	$300,000	$350,000	$410,000
No. of Issues	0	1	0	4	2	2	5

[a] See Footnote "b", Table 15–1 for description of securities included and the derivation of stated amounts.

[b] A holding company is a corporation that is formed for the sole purpose of owning stock in other companies. Names of companies included in Footnote "a" of Table 15–1.

TABLE 15–12
GAS UTILITY INDUSTRY NOTE ISSUES, BY TYPE OF COMPANY
1983–1989[a]

Type of Company	1983	1984	1985	1986	1987	1988	1989
Total							
Amount (000)	$2,182,751	$1,915,108	$4,236,665	$2,500,993	$3,601,089	$3,089,195	$4,262,066
No. of Issues	47	42	87	60	70	71	89
Distribution							
Amount (000)	$438,635	$185,600	$46,860	$81,873	$276,561	$130,108	$350,505
No. of Issues	7	4	6	6	16	8	14
Transmission							
Amount (000)	$613,058	$296,500	$753,500	$930,195	$993,274	$1,079,977	$559,524
No. of Issues	9	5	17	11	15	10	6
Integrated							
Amount (000)	$185,356	$369,626	$710,950	$484,899	$290,862	$176,043	$177,533
No. of Issues	7	7	9	8	12	4	9
Combination Utilities							
Amount (000)	$762,967	$640,182	$1,807,740	$705,420	$1,761,793	$903,972	$2,420,504
No. of Issues	20	20	39	15	20	39	32
Holding[b]							
Amount (000)	$182,735	$423,200	$917,615	$298,606	$278,599	$799,095	$754,000
No. of Issues	4	6	16	20	7	10	28

a. See Footnote "b", Table 15–1 for description of securities included and the derivation of stated amounts.

b. A holding company is a corporation that is formed for the sole purpose of owning stock in other companies. Names of companies included in Footnote "a" of Table 15–1.

SECTION 16
CONSTRUCTION EXPENDITURES

	1989	% Change 89/88
Construction Expenditures		
(Millions)		
Total	$7,341	+19.1
Production & Storage	276	+ 3.0
Transmission	2,081	+32.7
Underground Storage	159	+57.4
Distribution	3,980	+17.4
General	845	+ 0.6

CONSTRUCTION EXPENDITURES

TABLE 16-1
GAS UTILITY INDUSTRY CONSTRUCTION EXPENDITURES, BY TYPE OF FACILITY, 1967–1993[a]

(Millions)

Year	Total	Production and Storage	Transmission	Underground Storage	Distribution	General
1967	2,252	186	1,006	91	848	121
1968	2,972	259	1,577	88	913	135
1969	2,686	83	1,511	128	863	101
1970	2,507	203	1,019	167	913	205
1971	2,419	340	842	171	888	178
1972	2,822	717	678	177	1,081	169
1973	2,966	771	746	201	1,094	155
1974	2,965	830	632	230	1,097	176
1975	2,466	555	590	276	910	136
1976	2,425	466	531	362	926	140
1977	2,833	620	670	323	1,048	172
1978	3,581	881	935	321	1,228	215
1979	4,366	1,125	1,226	281	1,448	286
1980	5,350	1,150	1,583	396	1,869	352
1981	6,389	1,346	2,352	326	1,955	410
1982	5,939	1,322	1,921	368	1,881	447
1983	4,078	607	1,065	139	1,845	422
1984	4,645	422	1,301	121	2,266	535
1985	5,671	790	1,562	175	2,577	567
1986	5,342	258	1,448	125	2,920	591
1987	5,328	251	1,295	107	3,055	620
1988	6,166	268	1,568	101	3,389	840
1989	7,341	276	2,081	159	3,980	845
1990(forecast)	8,899	352	3,442	249	4,135	721
1991(forecast)	9,391	510	3,490	211	4,463	717
1992(forecast)	9,005	439	3,147	257	4,494	668
1993(forecast)	9,901	439	4,059	226	4,550	627

a. For companies not reporting 1992 and 1993 forecasts, data extrapolated from earlier years.

TABLE 16-2
GAS UTILITY INDUSTRY CONSTRUCTION EXPENDITURES, BY TYPE OF FACILITY, 1983–1989

	1983	1984	1985	1986	1987	1988	1989
Production and Storage	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
SNG Plant	0.5	0.8	0.3	0.5	0.1	a	0.0
LNG Plant	0.8	0.4	0.5	0.6	3.3	0.3	2.4
Propane Plant	7.3	11.3	0.6	1.8	2.0	1.5	2.7
Exploration and Drilling	22.6	25.7	28.5	32.1	6.2	41.0	6.2
Other[b]	65.8	54.5	64.9	51.3	70.2	38.5	71.7
LNG Storage	1.7	5.0	3.9	10.0	14.4	15.1	6.8
Other Storage	1.3	2.2	1.4	3.7	3.8	3.6	10.2
LNG Ships	0.0	a	0.0	0.0	0.0	0.0	0.0
Transmission	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
New and Replacement Pipe	72.5	73.2	72.4	76.9	81.9	75.8	79.0
Compressor Stations	21.4	20.6	21.3	17.4	13.3	20.0	12.2
Other	6.1	6.2	6.4	5.7	4.8	4.2	8.8
Distribution	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
New and Replacement Pipe	87.9	87.5	87.5	92.4	91.1	90.0	89.1
Compressor Stations	2.6	3.9	4.5	a	0.3	0.5	0.1
Other	9.5	8.6	8.0	7.6	8.6	9.5	10.7

a. Less than 0.1 percent.

b. Includes gathering.

SECTION 17
PERSONNEL DATA

	1989	% Change 89/88
Gas Utility Employees (Thousands)		
Total	204.5	+ 0.6
Distribution	64.1	+ 7.5
Transmission	37.1	−13.3
Integrated	40.2	− 0.5
Combination	50.9	+ 3.9
Municipals	12.2	+ 6.1

TABLE 15-11
GAS UTILITY INDUSTRY AVERAGE PERCENT COST AND YIELD OF DEBENTURE ISSUES
1983-1989[a]

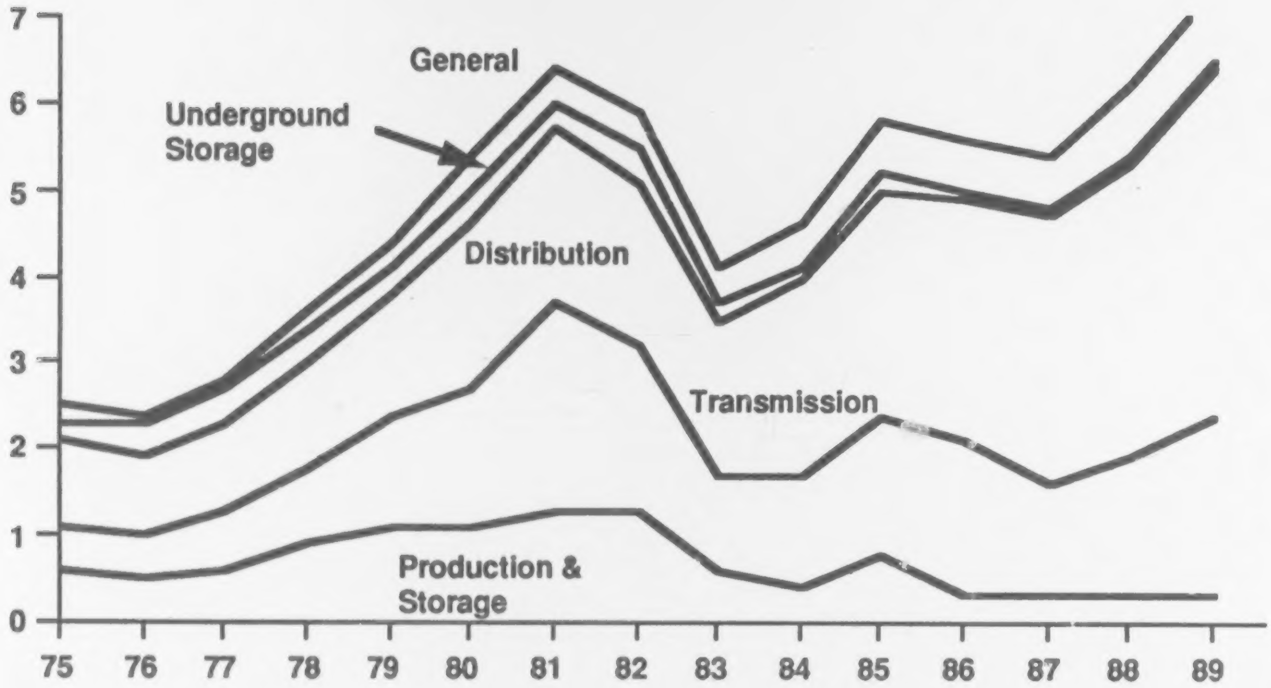
	1983		1984		1985		1986		1987		1988		1989	
	Cost %	Yield %	Cost %	Yield %	Cost %	Yield %	Cost %	Yield %	Cost %	Yield %	Cost %	Yield %	Cost %	Yield %
Total														
Average	12.40	12.23	11.82	11.72	11.24	11.11	9.65	9.47	9.29	9.09	10.15	9.96	10.14	9.93
Weighted Average	13.54	13.39	11.83	11.72	11.58	11.46	10.20	10.00	9.26	9.15	10.09	9.95	10.75	10.56
Sample Amount (000)		$880,000		$786,250		$722,189		$2,566,000		$1,503,500		$1,282,000		$2,658,000
Distribution														
Average	12.68	12.37	c	c	c	c	9.07	8.85	9.83	9.47	10.40	9.92	8.75	8.25
Weighted Average	12.41	12.23	c	c	c	c	9.06	8.78	9.84	9.63	10.34	9.92	8.75	8.25
Sample Amount (000)		$165,000		$0		$0		$316,000		$219,500		$122,000		$5,000
Transmission														
Average	13.30	13.19	13.16	13.06	12.56	12.42	9.79	9.70	9.32	9.24	10.02	9.92	12.05	11.63
Weighted Average	13.30	13.19	12.84	12.72	12.49	12.35	9.81	9.72	9.36	9.27	10.01	9.91	12.05	11.63
Sample Amount (000)		$200,000		$385,000		$355,750		$650,000		$770,000		$450,000		$300,000
Integrated														
Average	11.79	11.69	11.80	11.72	11.66	11.64	9.46	9.39	8.27	8.04	10.05	9.98	9.84	9.80
Weighted Average	11.21	11.12	12.30	12.26	11.75	11.73	9.37	9.29	7.11	6.98	9.99	9.90	9.84	9.81
Sample Amount (000)		$440,000		$120,000		$224,039		$250,000		$214,000		$360,000		$468,000
Combination Utilities														
Average	12.26	12.00	9.97	9.75	8.84	8.63	11.23	10.92	c	c	c	c	11.23	11.02
Weighted Average	12.26	12.00	10.26	10.03	9.02	8.81	11.69	11.36	c	c	c	c	11.21	11.00
Sample Amount (000)		$75,000		$181,250		$142,400		$900,000		$0		$0		$1,475,000
Holding[b]														
Average	c	c	10.26	10.25	c	c	9.00	8.90	9.91	9.81	10.25	10.05	9.41	9.17
Weighted Average	c	c	10.26	10.25	c	c	9.03	8.93	10.12	10.04	10.20	10.08	9.17	9.05
Sample Amount (000)		$0		$100,000		$0		$450,000		$300,000		$350,000		$410,000

a. Includes only those issues in Table 15-10 for which necessary cost and yield data were available.
b. A holding company is a corporation that is formed for the sole purpose of owning stock in other companies. Names of companies included in Footnote "a" of Table 15-1.
c. No issues used in this sample.
Definitions: "Cost" refers to the expenses incurred by a company. It includes dividends, underwriter fees, plus discount expenses less premiums.
"Yield" is the rate of return on investment by a buyer.

CHART 16-1

GAS UTILITY INDUSTRY CONSTRUCTION EXPENDITURES

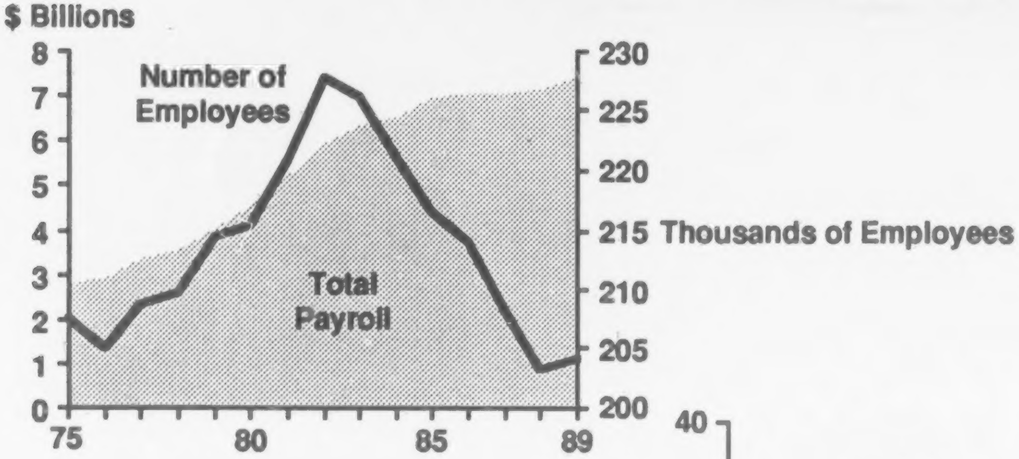
(BILLIONS OF DOLLARS)

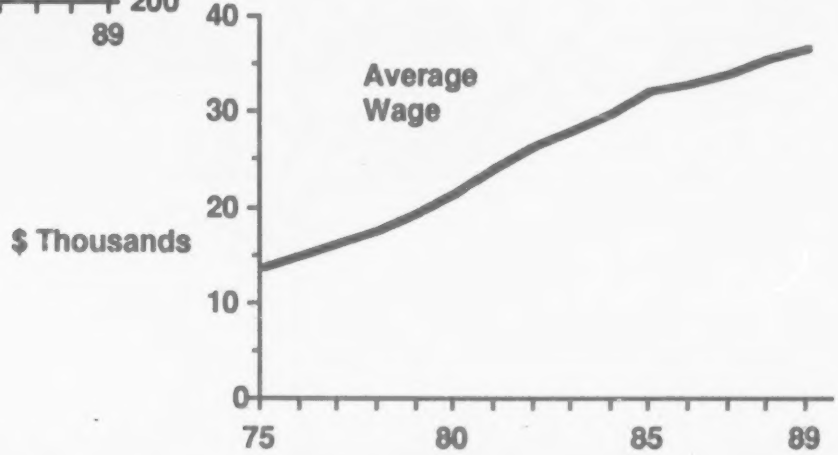


REFERENCE: TABLES 16-1

CHART 17-1

GAS UTILITY INDUSTRY PAYROLL, EMPLOYEES AND AVERAGE WAGE





REFERENCE: TABLES 17-1

PERSONNEL DATA

TABLE 17-1
GAS UTILITY INDUSTRY EMPLOYEES AND PAYROLL
1967–1989

Year	Average Number of Employees (Thousands)	Total Payroll (Thousands)	Average Wage per Employee
1967	207.2	$1,640,397	$ 7,920
1968	208.6	1,759,784	8,440
1969	210.2	1,890,490	8,990
1970	211.7	2,021,197	9,550
1971	213.7	2,142,892	10,028
1972	215.4	2,321,932	10,780
1973	215.2	2,449,075	11,381
1974	213.4	2,606,903	12,216
1975	207.6	2,817,150	13,570
1976	205.1	3,044,605	14,844
1977	208.8	3,371,856	16,149
1978	209.8	3,647,057	17,383
1979	214.6	4,134,270	19,265
1980	215.4	4,612,791	21,415
1981	220.9	5,313,445	24,057
1982	227.8	5,998,666	26,342
1983	226.3	6,365,305	28,128
1984	221.2	6,602,168	29,849
1985	216.6	6,959,057	32,132
1986	214.1	7,072,535	33,019
1987	208.3	7,092,959	34,051
1988[R]	203.3	7,214,378	35,486
1989	204.5	7,476,192	36,558

R–Revised.

TABLE 17-2
GAS UTILITY INDUSTRY EMPLOYEES AND PAYROLL BY TYPE OF PAYROLL AND TYPE OF COMPANY, 1975–1989

(Thousands)

	1975	1980	1984	1985	1986	1987	1988[R]	1989
Total								
Employees	207.6	215.4	221.2	216.6	214.1	208.3	203.3	204.5
Payroll—Total	$2,817,150	$4,612,791	$6,602,168	$6,959,057	$7,072,535	$7,092,959	$7,214,378	$7,476,192
Operating	2,292,448	3,652,941	5,292,915	5,515,089	5,717,005	5,730,423	5,813,903	6,064,600
Construction	380,835	627,706	890,048	962,353	986,504	1,008,797	1,023,478	1,076,712
Miscellaneous	143,867	332,144	419,205	481,615	369,026	353,739	376,997	334,880
Investor Owned—Total								
Employees	196.3	202.7	208.9	204.5	201.9	196.1	191.8	192.3
Payroll—Total	$2,675,092	$4,379,653	$6,285,649	$6,629,132	$6,730,941	$6,724,752	$6,872,181	$7,082,533
Operating	2,184,446	3,463,437	5,016,924	5,227,943	5,419,464	5,425,114	5,537,099	5,740,445
Construction	357,221	594,326	862,091	993,035	957,301	962,186	979,490	1,026,387
Miscellaneous	133,425	321,890	406,634	468,154	354,176	337,452	355,592	315,701
Distribution								
Employees	51.3	52.1	46.2	61.8	59.3	59.5	59.6	64.1
Payroll—Total	$697,552	$1,040,436	$1,241,732	$1,736,309	$1,761,169	$1,846,586	$1,928,748	$2,225,857
Operating	567,947	831,076	1,024,387	1,407,131	1,430,973	1,496,386	1,558,564	1,802,679
Construction	98,257	152,964	166,118	233,723	238,115	255,620	266,262	305,957
Miscellaneous	31,348	56,396	51,227	95,455	92,081	94,580	103,922	117,221
Transmission								
Employees	37.2	45.2	47.2	46.3	47.6	44.3	42.8	37.1
Payroll—Total	$574,275	$1,178,706	$1,663,635	$1,786,918	$1,819,689	$1,706,315	$1,717,643	$1,591,434
Operating	470,418	873,199	1,272,709	1,341,552	1,487,625	1,424,333	1,444,243	1,354,488
Construction	53,832	108,974	149,100	156,730	140,615	127,362	123,149	114,793
Miscellaneous	50,025	196,533	241,826	288,636	191,449	154,620	150,251	122,153
Integrated								
Employees	55.4	53.2	65.7	43.3	41.5	40.9	40.4	40.2
Payroll—Total	$676,967	$1,061,520	$1,800,005	$1,355,107	$1,324,953	$1,312,852	$1,319,878	$1,299,892
Operating	548,291	873,837	1,497,310	1,158,017	1,107,852	1,101,633	1,101,333	1,105,109
Construction	91,439	138,062	211,774	146,519	172,162	170,519	173,589	173,872
Miscellaneous	37,237	49,621	90,921	50,571	44,939	40,700	44,956	20,911
Combination								
Employees	52.4	52.2	49.7	53.1	53.5	51.4	49.0	50.9
Payroll—Total	$726,298	$1,098,991	$1,580,277	$1,750,798	$1,825,130	$1,858,999	$1,905,912	$1,965,350
Operating	597,790	885,325	1,222,518	1,321,243	1,393,014	1,402,762	1,432,959	1,478,169
Construction	113,693	194,326	335,099	396,063	406,409	408,685	416,490	431,765
Miscellaneous	14,815	19,340	22,660	33,492	25,707	47,552	56,463	55,416

R–Revised.

Note: Data by company type not directly comparable from year to year due to acquisitions and mergers. See page ix.

TABLE 17-3
EMPLOYEE ACCIDENT INCIDENT AND SEVERITY RATES OF SELECTED INDUSTRIES, 1987[a]

	Rate	
	Incident	Severity
Gas Utilities[b]	**2.58**	**17.44**
All Industries	**1.86**	**22.04**
Agricultural Chemicals	.70	24.29
Aircraft	1.42	16.90
Air Transportation	2.21	12.22
Bituminous Coal	2.52	35.71
Cement	2.40	31.67
Chemical	.62	22.58
Communications	.72	18.06
Construction	2.93	21.50
Electric, Electronic Equipment	1.12	20.54
Electric Service	1.07	22.43
Fabricated Metal Products	1.89	21.16
Food	3.10	21.29
Furniture and Fixtures	1.76	18.18
General Government	3.83	23.24
Iron and Steel Foundries	1.66	27.71
Leather	2.29	17.47
Lumber and Wood Products	4.18	23.44
Machinery, excluding Electrical	1.74	19.54
Meat Products	4.18	20.10
Metal Mining	1.96	34.69
Motor Vehicles	2.90	26.55
Nonferrous Rolling, Drawing	1.32	22.73
Nonmetallic Minerals	1.25	36.80
Oil and Gas Extraction	.63	23.81
Paper	2.20	26.36
Petroleum and Coal Products	1.27	23.62
Pipeline Transportation	1.14	18.42
Primary Nonferrous Metals	1.92	26.56
Printing and Publishing	2.21	17.19
Railroad Equipment	4.74	25.32
Railroad Transportation	3.56	31.74
Rubber and Plastics	1.77	23.16
Services	2.03	13.79
Ship and Boat Building	4.20	18.09
Stone, Clay and Glass	2.54	30.71
Textile	.48	29.17
Transit	8.93	16.24
Trucking	17.55	14.02
Water Transportation	3.47	26.22
Wholesale and Retail Trade	1.85	20.54

a. Incident rate is the number of disabling injuries per 100 full-time employees. Severity rate is average lost workdays per injury.

b. Gas figures derived from National Safety Council data.

Source: National Safety Council, *Accident Facts*, 1988.

TABLE 17-4
DEATH RATES OF WORKERS, BY MAJOR INDUSTRIES, 1987

	Deaths	
	Total	Per 100,000 Workers
All Industries	**11,100**	**10**
Agriculture	1,600	49
Construction	2,200	35
Government	1,300	8
Manufacturing	1,100	6
Mining, Quarrying, Oil and Gas Wells	300	38
Service	1,800	5
Trade	1,300	5
Transportation and Public Utilities	1,500	28
Gas[a]	6	3.01

a. Included in Transportation and Public Utilities. Data derived from A.G.A. *Report of Occupational Injuries and Illnesses in the Gas Utility and Transmission Industry in the United States*, and does not represent total industry.

Source: National Safety Council; *Accident Facts*, 1988: gas figures derived from A.G.A. data.

APPENDIX A
GLOSSARY

(This is an abbreviated list of gas utility industry definitions. A complete list is contained in the *Glossary for the Gas Industry*).

Accident Frequency Rate: See Injury Frequency Rate, Disabling.

Accident Incident Rate: See Injury Incident Rate.

Accident Severity Rate: See Injury Severity Rate, Disabling.

Additions (To Utility Plant):

Gross Additions: Expenditures for construction (including Allowance for Funds Used During Construction) and/or utility plant purchased and acquired.

Net Additions: Gross additions less retirements and adjustments of utility plant. It is the net change in utility plant between two dates.

Anthracite Coal: A hard, black, lustrous coal that burns efficiently, containing a higher percentage of fixed carbon and a low percentage of volatile matter differing from bituminous, and generally having a heating value of 11,000-12,000 Btu/lb. Commonly referred to as hard coal; it is mined in the U.S., mainly in eastern Pennsylvania, although in small quantities in other states. Most of the anthracite is used as a fuel in household heating systems. When anthracite burns, it produces almost no smoke.

Associated Natural Gas: See Gas, Natural.

Associated Number of Customers: See Customers, Average Number of.

Average Revenue Per Unit of Gas Sales (By Class of Service): Revenue from the sale of gas to a class of service, exclusive of forfeited discounts and penalties, divided by the corresponding number of units sold. Units may be therms, Btu's, or cubic feet.

Barrel (Oil): A volumetric unit of measurement equivalent to 42 U.S. standard gallons, 9,702 cubic inches, 5.6146 cubic feet, 34.9722 Canadian Imperial gallons, 158.99 liters, or .15899 cubic meters. It is the unit of measurement commonly used to measure oil production and oil reserves within the U.S.

Bcf: 1,000,000,000 cubic feet; Billion cubic feet.

Bituminous Coal: Ranking of soft coal generally having a heating value of 11,000–13,000 Btu/lb., high in volatile matter and ash.

Blue Gas: See Water Gas.

Boiler Fuel Gas: Natural gas used as a fuel for the generation of steam (or hot water).

Bottled Gas: In the industry, liquefied petroleum gas contained under moderate pressure in cylinders, sometimes referred to as bottles. Usually propane and/or butane.

British Thermal Unit (Btu): The quantity of heat necessary to raise the temperature of one pound of water one degree Fahrenheit from 58.5 to 59.5 degrees Fahrenheit under standard pressure of 30 inches of mercury at or near its point of maximum density. One Btu equals 252 calories (gram), 778 foot-pounds, 1,055 joules and 0.293 watt hours.

By-Products (Residuals): Secondary products which are obtained from the processing of a raw material and have commercial value. They may be the residues of the gas production process, such as coke, tar, and ammonia. or they may be the result of further processing of such residues, such as ammonium sulphate.

Capacity, Effective: The maximum load which a machine, apparatus, device, plant or system is capable of carrying under existing service conditions.

Carbon Black: Almost pure amorphous carbon consisting of extremely fine particles, usually produced from gaseous or liquid hydrocarbons by controlled combustion with a restricted air supply or by thermal decomposition.

Casinghead Gas: Unprocessed natural gas containing natural gasoline and other liquid hydrocarbon vapors produced from oil well. Frequently called WET GAS, ASSOCIATED GAS (but not all wet gas or associated gas is casinghead gas), and in the past, BRADENHEAD GAS. Technically, the term should apply only to gas produced from the casing of an oil well, and not from the tubing, but it is often applied to any gas produced in association with oil.

City Gate (Town Border Station): See Gate Station.

Class of Service: Defines the type of customer. The common classes of service applied to ultimate consumers, and considerably more completely described in the A.G.A. publication "Definitions of a Gas Customer and Classes of Service for Industry Reporting Purposes" are:

1. **Residential Service**
   Covers service to customers for domestic purposes (single, multifamily or mobile homes, etc.). In residential service, the number of housing units within a structure determines the customer classification.
2. **Commercial Service**
   Covers service to customers engaged in wholesale or retail trade, agriculture, communications, finance, fisheries, forestry, government, insurance, real estate, transportation, etc., and to customers not directly involved in other classes of service.
3. **Industrial Service**
   Covers service to customers engaged primarily in a process which either involves the extraction of raw materials from the earth, or a change of raw or unfinished materials into another form or product.
4. **Other Services**
   Service to municipalities or divisions (agencies) of State or Federal Governments under special contracts or agreements or service classifications, which are applicable only to public authorities using gas for general or institutional purposes. (Exclude sales properly included under items 2 or 3 above, such as manufacturing arsenals or publicly-owned power systems).
5. **Sales for Resale** (Uniform System of Accounts, 483)
   Service to other utility companies, governmental agencies (municipal, county, state or federal), rural cooperatives, etc., for distribution and resale to ultimate customers. Service to other utilities for use by them and not for distribution and resale, is to be classified as residential, commercial, or industrial, depending upon the primary business or economic activity.

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Coal Gas: Manufactured gas made by distillation or carbonization of coal in a closed coal gas retort, coke oven, or other vessel.

Combination Utility: Utility which supplies both gas and some other utility service (electricity, water, etc.). For purposes of A.G.A. statistics, a combination utility derives at least 5 percent but less than 95 percent of its total sales revenues from gas operations. See Appendix C for a partial list of combination companies.

Commercial Service: See Class of Service.

Communities (Served): A community is a contiguous built-up area, incorporated or unincorporated, commonly recognized as a separate entity. Any incorporated area and its adjacent built-up unincorporated area may be counted as one community.

Compressor Horsepower: See Horsepower, Compressor.

Compressor Station: Any permanent combination of facilities which supplies the energy to move gas at increased pressure from fields, in transmission lines or into storage. For reporting to A.G.A. include field (other than temporary) line, and storage compressor stations of producing and transmission companies; distribution companies should include underground storage compressor stations and stations used for transporting gas between local distribution systems but not booster or pumping stations used within a local distribution system.

Condensate: The liquid resulting when a vapor is subjected to cooling and pressure reduction. Also, liquid hydrocarbons condensed from gas and oil wells. Compare Liquids, Natural Gas.

Construction Expenditures: Cost of construction, including work-in-progress (CWIP), overhead or contributions in aid of construction and allowances for funds used during construction (AFUDC), for additions to, renewals and replacements of plant facilities, but excluding the purchase cost of an acquired operating unit or system of utility plant, accounting transfers and adjustments to utility plant, and cost to remove plant facilities from service.

Conversion to Natural Gas: Changing the gas service to ultimate customers from a fuel other than natural gas to natural gas, including adjustment of consumers' appliances to perform satisfactorily with natural gas. Natural gas does not necessarily mean straight natural gas; stabilizing the heat content of the sendout gas by diluent gases or enriching gases is not considered to change the basic character of natural gas. For the purpose of uniform reporting a company should be considered a natural gas company when 95 percent of the system has been converted.

Cubic Foot: The most common unit of measurement of gas volume. It is the amount of gas required to fill a volume of one cubic foot under stated conditions of temperature, pressure, and water vapor.

Current Gas: See Storage, Underground.

Cushion Gas: The gas required in a reservoir, used for storage of natural gas, so that reservoir pressure is such that the storage gas may be recovered.

Customer: An individual, firm or organization which purchases service at one location under one rate classification, contract, or rate schedule. If service is supplied at more than one location or under more than one rate schedule, each location and rate schedule shall be counted as a separate customer unless the consumption at the several locations is combined before billing and billed on one rate schedule.

Customers, Average Number of: The average number of customers is determined by summing the customers for each of the periods involved and dividing by the number of periods. See Customer.

Customers, End of Year: The number of customers at December (or the last month of a fiscal year) including all billing cycles. See Customers, Average Number of.

Degree Day, Heating: A measure of the coldness of the weather experienced, based on the extent to which the daily mean temperature falls below a reference temperature, usually 65°F. For example, on a day when the mean outdoor dry-bulb temperature is 35°F., there would be 30 degree days experienced. A daily mean temperature usually represents the sum of the high and low readings divided by two.

Degree Day Normal: The simple arithmetic average of monthly or annual degree days (usually for a 30-year period). May be a simple degree day normal or population-weighted degree day normal.

Demand: The rate at which gas is delivered to or by a system, part of a system, or a piece of equipment, expressed in cubic feet or therms or multiples thereof, for a designated period of time called the demand interval. Compare Load.

Design Day: A 24-hour period of demand which is used as a basis for planning gas capacity requirements.

Design Day Availability: The amount of each type of gas arranged to be available on the design day and the maximum combination of such supplies. (In the case of purchased natural gas, the maximum day allocation, maximum day contract quantity, or FERC authorization).

Design Day Temperature: The mean temperature assumed for the Design Day.

Dissolved Natural Gas: See Gas, Natural.

Distribution Company, Gas: Company which obtains the major portion of its gas operating revenues from the operation of a retail gas distribution system, and which operates no transmission system other than incidental connections within its own system or to the system of another company. For purposes of A.G.A. statistics, a distribution company obtains at least 90 percent of its gas operating revenues from sales to ultimate customers *and* classifies at least 90 percent of mains (other than service pipe) as distribution. Compare Integrated Company, Gas; Transmission Company, Gas. See Appendix C for a partial list of Distribution Companies.

Distribution Mains: See System Type.

Distribution System, Gas: See System Type.

Dry Natural Gas: See Gas, Natural.

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Enriching: Increasing the heat content of a gas by mixing with it a gas of higher Btu content.

Exchange Gas: Gas that is received from (or delivered to) another party in exchange for gas delivered to (or received from) such other party.

Extraneous Gas: See Storage, Underground.

Field Pipeline: See System Type.

Firm Service: Service offered to customers (regardless of Class of Services) under schedules or contracts which anticipate no interruptions. The period of service may be for only a specified part of the year as in Off-Peak Service. Certain firm service contracts may contain clauses which permit unexpected interruption in case the supply to residential customers is threatened during an emergency. Compare Interruptible Service; and Off-Peak Service.

Foreign Gas: See Storage, Underground.

Gallon: A unit of liquid measure. The U.S. gallon contains 231 cubic inches or 8.3359 pounds avoirdupois of distilled water at its maximum density and with the barometer at 30 inches.

Gas, Dry: See Gas, Natural.

Gas, Liquefied Petroleum (LPG): A gas containing certain specific hydrocarbons which are gaseous under normal atmospheric conditions but can be liquefied under moderate pressure at normal temperatures. Propane and butane are the principal examples.

Gas, Manufactured: A gas obtained by destructive distillation of coal, or by the thermal decomposition of oil, or by the reaction of steam passing through a bed of heated coal or coke, or catalyst beds. Examples are coal gases, coke oven gases, producer gas, blast furnace gas, blue (water) gas, and carbureted water gas. Btu content varies widely.

Gas, Natural: A naturally occurring mixture of hydrocarbon and nonhydrocarbon gases found in porous geologic formations beneath the earth's surface, often in association with petroleum. The principal constituent is methane.

Associated: Free natural gas in immediate contact, but not in solution with crude oil in the reservoir.

Dissolved: Natural gas in solution in crude oil in the reservoir.

Dry: Gas whose water content has been reduced by a dehydration process. Gas containing little or no hydrocarbons commercially recoverable as liquid product. Specified small quantities of liquids are permitted by varying statutory definition in certain states.

Liquefied (LNG): Natural gas which has been liquefied by reducing its temperature to minus 260°F at atmospheric pressure. It remains a liquid at −116°F and 673 psig. In volume it occupies 1/600 of that of the vapor.

Liquids: Those liquid hydrocarbon mixtures which are gaseous at reservoir temperatures and pressures but are recoverable by condensation or absorption. Natural gasoline and liquefied petroleum gases fall in this category.

Non-Associated: Free natural gas not in contact with, nor dissolved in, crude oil in the reservoir.

Sour: Gas found in its natural state, containing such amount of compounds of sulphur as to make it impractical to use, without purifying, because of its corrosive effect on piping and equipment.

Substitute: A gas manufactured from carbonaceous material whose characteristics are substantially interchangeable with natural gas. The resultant gas is composed primarily of methane. At this writing, SNG feedstocks are the light hydrocarbons, propane, butane and the naphthas. Development is underway of processes for production from heavier feedstocks, coal, peat and solid wastes.

Sweet: Gas found in its natural state, containing such small amount of compounds of sulphur that it can be used without purifying, with no deleterious effect on piping and equipment.

Wet: Wet natural gas is unprocessed natural gas or partially processed natural gas produced from strata containing condensable hydrocarbons. The term is subject to varying legal definitions as specified by certain state statutes.

Gas, Oil: A gas resulting from the thermal decomposition of petroleum oils, composed mainly of volatile hydrocarbons and hydrogen. The true heating value of oil gas may vary between 800 and 1600 Btu per cubic foot depending on the operating conditions and feedstock properties.

Gas, Substitute Natural (SNG): See Gas, Natural.

Gas Transported for Others: That volume of gas owned by another company received into and transported through any part of the transmission system under a transportation tariff.

Gate Station: Generally, a location at which gas changes ownership, from one party to another, neither of which is the ultimate consumer. It should be noted, however, that the gas may change from one system to another at this point without changing ownership. Also referred to as city gate station, town border station, or delivery point.

Gathering Pipeline: See System Type.

Heating Value: The amount of heat produced by the complete combustion of a unit quantity of fuel. The gross or higher heating value is that which is obtained when all of the products of combustion are cooled to the temperature existing before combustion, the water vapor formed during combustion is condensed, and all the necessary corrections have been made. The net or lower heating value is obtained by subtracting the latent heat of vaporization of the water vapor formed by the combustion of the hydrogen in the fuel, from the gross or higher heating value.

Holder, Gas: A gas-tight receptacle or container in which gas is stored for future use. (1) at approximately constant pressure (low pressure containers) in which case the volume of the container changes; and (2) in containers of constant volume (usually high pressure containers) in which case the quantity of gas stored varies with the pressure.

Holding Company: A gas holding company is a corporation that is formed for the purpose of owning stock in other gas companies.

Horsepower, Compressor: The horsepower rating on the nameplate.

Horsepower, (HP): A unit of power; equivalent to 33,000 foot-pounds per minute, or 550 foot-pounds per second (mechanical horsepower), or 0.746 kilowatts.

Hydrocarbon: A chemical compound composed solely of hydrogen and carbon. The compounds having a small number of carbon and hydrogen atoms in their molecule are usually gaseous; those with a larger number of atoms are liquid, and the compounds with the largest number of atoms are solid.

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Industrial Service: See Class of Service.

Injury Frequency Rate, Disabling: Number of disabling injuries per million man-hours worked. Such injuries include disabilities and fatalities arising out of and occurring during the course of employment. A disabling injury is one which renders the employee unable to return to work on one or more days after the injury.

Injury Incident Rate: Number of injuries per 100 full-time employees.

Injury Severity Rate, Disabling: Number of days lost due to disabling per million manhours worked, including appropriate time charges according to a predetermined schedule for permanent disability cases and/or fatalities. Subsequent to 1976, severity rate is average lost workdays per injury.

Integrated Company, Gas: A company which obtains a significant portion of its gas operating revenues from the operations of both a retail gas distribution system and gas transmission system. For purposes of A.G.A. statistics, an integrated company obtains less than 90 percent but more than 10 percent of its gas operating revenues from either its retail or transmission operations or does not meet the classification of mains established for distribution or transmission companies. Compare Distribution Company, Gas; Transmission Company, Gas. See Appendix C for a partial list of Integrated Companies.

Interruptible Service: Low priority service offered to customers under schedules or contracts which anticipate and permit interruption on short notice, generally in peak-load seasons, by reason of the claim of firm service customers and higher priority users. Gas is available at any time of the year if the supply is sufficient and the supply system is adequate.

Line Pack, Gas Delivered from: That volume of gas delivered to the markets supplied by the net change in pressure in the regular system of mains, transmission and/or distribution. For example, the change in the content of a pipeline brought about by the deviation from steady flow condition.

Liquefied Natural Gas (LNG): See Gas, Natural.

Liquefied Petroleum Gas (LPG): See Gas, Liquefied Petroleum.

Load: The amount of gas delivered or required at any specified point or points on a system; load originates primarily at the gas consuming equipment of the customers. Also, to load a pressure regulator is to set the regulator to maintain a given pressure as the rate of gas flow through the regulator varies. Compare Demand.

Local Storage: See Storage, Local.

Mcf: The quantity of natural gas occupying a volume of one thousand (1,000) cubic feet at a temperature of sixty degrees Fahrenheit (60°F) and at a pressure of fourteen and seventy-three hundredths pounds per square inch absolute (14.73 psia).

MMBtu: A thermal unit of energy equal to 1,000,000 Btu, that is equivalent of 1,000 cubic feet of gas having a heat content of 1,000 Btu per cubic foot, as provided by contract measurement.

MMcf: 1,000,000 cubic feet; Million cubic feet; see Cubic Foot.

TABLE 17-5
EMPLOYEE DISABLING INJURY RATES, BY TYPE OF GAS UTILITY, 1970-1989

Z16.1 DATA

	All Reporting Gas Utilities				Natural Gas Distribution and Integrated Companies		Natural Gas Transmission Companies		Natural Gas Combination Companies[a]	
	Reporting Companies		Rate[b]		Rate		Rate		Rate	
Year	Number	Average Employees	Frequency[c]	Severity[d]	Frequency[c]	Severity[d]	Frequency[c]	Severity[d]	Frequency[c]	Severity[d]
1970	719	200,493	6.34	548	6.66	522	5.02	686	e	e
1971	833	210,589	7.15	473	7.48	444	5.70	634	e	e
1972	736	205,371	8.38	535	8.98	495	5.88	762	e	e
1973	708	207,423	8.18	547	8.77[f]	373[f]	5.67	1,287	e	e
1974	644	208,283	9.08	357	9.75[g]	362[g]	6.12	333	e	e
1975	515	193,957	9.27	570	9.99[g]	518[g]	6.37	785	e	e
1976	407	153,538	11.17	365	12.87[g]	403[g]	5.31	236	e	e

OSHA DATA

	All Reporting Gas Utilities				Natural Gas Distribution and Integrated Companies		Natural Gas Transmission Companies		Natural Gas Combination Companies	
	Reporting Companies		Rate		Rate		Rate		Rate	
Year	Number	Average Employees	Incident[h]	Severity[i]	Incident[h]	Severity[i]	Incident[h]	Severity[i]	Incident[h]	Severity[i]
1977	433	243,773	2.46	18.01	3.31	15.86	1.09	20.63	2.00	20.54
1978	423	236,661	2.46	17.11	3.41	14.86	1.10	22.51	2.10	18.90
1979	443	256,797	2.52	16.76	3.57	15.01	1.16	24.71	1.97	17.81
1980	453	262,173	2.62	18.20	3.45	14.28	1.15	32.17	2.26	21.34
1981	437	278,402	2.52	25.09	3.43	17.08	1.09	26.34	2.17	37.53
1982	424	275,725	2.33	18.36	3.39	13.63	1.15	23.10	1.90	24.30
1983	431	272,236	2.33	18.02	3.44	13.91	1.09	20.55	1.82	24.66
1984	415	254,765	2.52	16.01	3.67	13.20	1.02	19.60	1.91	21.11
1985	439	229,658	2.36	17.12	3.64	14.28	1.07	47.02	1.13	15.14
1986	419	224,696	2.37	17.68	3.49	16.06	.95	38.21	1.58	15.56
1987	331	187,997	2.30	18.84	3.08	16.86	1.17	39.91	1.59	16.95
1988	345	198,868	2.07	17.62	3.02	16.84	.86	23.45	1.21	18.64
1989	375	189,976	2.30	16.85	3.15	15.75	1.06	24.26	1.68	17.38

a. Included in "Natural Gas Distribution" and "Integrated Companies" under Z16.1 data.
b. Includes "Manufactured and Mixed Gas" and "Liquefied Petroleum Gas."
c. Frequency Rate is number of disabling injuries per million man-hours worked for each injury resulting in a minimum of one day's loss of time.
d. Severity Rate is number of days lost due to disabling injuries, per million man-hours worked.
e. Not available under Z16.1 data.
f. Includes "Manufactured and Mixed Gas."
g. Includes "Manufactured and Mixed Gas" and "Liquefied Petroleum Gas."
h. Incident Rate is total injuries per 100 full-time employees.
i. Severity Rate is average lost workdays per injury.

Source: A.G.A. *Disabling Injury Experience*, 1989.

Note: Companies are now required to report under the Occupational Safety and Health Act (OSHA) instead of ANST Standard Z16.1.

Main: A distribution line that serves as a common source of supply for more than one gas service line.

Distribution Mains: See System Type.

Field and Gathering Pipeline: See System Type.

Transmission Pipeline: See System Type.

Manufactured Gas: See Gas, Manufactured.

Marketable Natural Gas: Raw gas from which certain hydrocarbons and non-hydrocarbon compounds have been removed by processing. Marketable natural gas is often referred to as pipeline gas, residue gas, or sales gas.

Maximum Day:

Allocation: See Design Day Availability.

Sendout: See Sendout, Maximum Day.

Minimum Day: See Sendout, Minimum Day.

Naphtha: A loosely defined petroleum fraction containing primary aliphatic (linear) hydrocarbons with boiling points ranging from 125° to 240°C. It is thus intermediate between gasoline and kerosene, and contains components of both. Its principal uses are in solvents and paint thinners and as a raw material for the production of organic chemicals, but it has been used as a raw material for the production of synthetic natural gas.

Native Base Gas: See Storage, Underground.

Natural Gas: See Gas, Natural.

Natural Gas, Associated: See Gas, Natural.

Natural Gas, Dissolved: See Gas, Natural.

Natural Gas, Dry: See Gas, Natural.

Natural Gas, Liquefied: See Gas, Natural.

Natural Gas Liquids: See Gas, Natural.

Natural Gas, Non-Associated: See Gas, Natural.

Natural Gas Reserves: See Reserves.

Natural Gas, Sour: See Gas, Natural.

Natural Gas, Sweet: See Gas, Natural.

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Natural Gas, Wet: See Gas, Natural.

Natural Gasoline: Liquid removed from natural gas by absorption or refrigeration and containing hydrocarbons heavier than butane.

Off-Peak Service: Service made available on special schedules or contracts but only for a specified part of the year during the off-peak season. Compare Interruptible Service.

Oil Gas: See Gas, Oil.

Oil, Heavy: Heavy, thick and viscous oils. Usually refinery residuals commonly specified as grades 5 and 6.

Oil, Light: Generally, all oils lighter than residual fuel oils No. 5 and No. 6. Oils that have a low specific gravity, usually products of controlled distillation of crude oil but also including byproduct benzol and toluol.

Peak Day: The one day (24 hours) of maximum system deliveries of gas during a year. Peak day data is used to, among other things, determine the allocation of certain costs between classes of service. See Design Day.

Peak Shaving: The use of fuels and equipment to generate or manufacture gas to supplement the normal supply of pipeline gas during periods of extremely high demand. This method prevents the expensive alternative of expanding pipeline facilities.

Pipeline: All parts of those physical facilities through which gas is moved in transportation, including pipe, valves and other appurtenance attached to pipe, compressor units, metering stations, regulator stations, delivery stations, holders and fabricated assemblies. See System Type.

Pressure, Absolute (PSIA): Pressure in excess of a perfect vacuum. Absolute pressure is obtained by algebraically adding guage pressure to atmospheric pressure. Pressures reported in "atmospheres" are understood to be absolute. Absolute pressure must be used in equations of state and in all gas-law calculations. Guage pressures below atmospheric pressure are called vacuum.

Pressure, Gauge (psig): Pounds per square inch above atmospheric pressure.

Producer Gas (Also, Manufactured Gas): A combustible gas made in a furnace or apparatus by circulating air or a mixture of air and steam through a layer of incandescent material consisting chiefly of carbon monoxide, hydrogen and nitrogen.

Propane (C_3H_8): A gas, the molecule of which is composed of three carbon and eight hydrogen atoms. Propane is present in most natural gas and is the first product refined from crude petroleum. It has many industrial uses and may be used for heating and lighting. Contains approximately 2,500 Btu per cubic foot.

Recoverable Natural Gas Reserves: See Reserves, Recoverable Natural Gas.

Refinery Gas: See Gas, Oil.

Reforming: A chemical process using heat in presence of a catalyst to break down a substance into desired components, such as in the reforming of natural gas or light oils into lower Btu fuel gas.

Repressuring: Forcing gas, under pressure, into the oil reservoir in an attempt to increase the recovery of crude oil; also done with water.

Resale Service: See Class of Service, Sales for Resale.

Reserves, Energy: Refers to the bank of natural resources, such as natural gas, natural gas liquids, petroleum, coal, lignite, and energy available from water power, and solar and geothermal energy.

Estimated Potential Natural Gas Reserves: Refers to an estimate of the remaining natural gas in a specified area which are judged to be recoverable.

Estimated Proved Natural Gas Reserves: An estimated quantity of natural gas which analysis of geologic and engineering data demonstrates with reasonable certainty to be recoverable in the future from known oil and gas reservoirs, under anticipated economic and current operating conditions. Reservoirs that have demonstrated the ability to produce by either actual production or conclusive formation test are considered proved.

Saturation, Appliance or Customer: The number of specified appliances, or users, divided by the basic units or total potential of the universe involved, i.e., Gas Heating Saturation related to customers is the total number of customers with space heating divided by the total number of customers. Saturation should not be used alone but should be associated with customers, families, households, population or other qualifying terms indicating the universe referred to. For industry statistics, saturation based on customers served is used.

Sendout, Gas: Total gas produced, purchased (including exchange gas receipts), or net withdrawn from underground storage within a specified time interval, measured at the point(s) of production and/or purchase, and/or withdrawal, adjusted for changes in local storage quantity. It comprises gas sales, exchange deliveries, gas used by company and unaccounted for gas. Expressed in various units such as therms, Btu's, cubic feet, etc.

Sendout, Maximum Day: The greatest actual total gas sendout occurring in a specified 24-hour period. Compare Design Day; Peak Day.

Sendout, Minimum Day: The smallest actual total gas sendout occurring in a specified 24-hour period.

Service (Service Line, Service Pipe): The pipe which carries gas from the main to the customer's meter. Compare Class of Service.

Shrinkage, Natural Gas: The reduction is volume of wet natural gas due to the extraction of some of its constituents, such as hydrocarbon products, hydrogen sulfide, carbon dioxide, nitrogen, helium, and water vapor.

Storage, Buried Pipe (Bottle-Type Holder): A system of storage in especially designed high pressure pipe sections or bottles capable of storing natural gas at pressures near or equal to the pressure of maximum super-compressibility. Not storage in ordinary steel pipe.

Storage, Local: The storage facilities, other than underground storage, that are an integral part of a distribution system, i.e., on the distribution side of the city gate, whether for manufactured, mixed, natural, liquefied petroleum, or liquefied natural gases.

APPENDIX A

Storage Mains: Those mains used primarily for injection and withdrawal of gas to and from underground storage.

Storage, Underground: The utilization of subsurface facilities for storing gas which has been transferred from its original location for the primary purposes of load balancing. The facilities are usually natural geological reservoirs such as depleted oil or gas fields or waterbearing sands sealed on the top by an impermeable cap rock. The facilities also may be manmade or natural caverns.

Aquifer Storage: The storage of gas underground in porous and permeable rock stratum, the pore space of which was originally filled with water and in which the stored gas is confined by suitable structure, permeability barriers and hydrostatic water pressure.

Base Gas (Also called cushion gas): The total volume of gas which will maintain the required rate of delivery during an output cycle.

Current Gas: The total volume of gas in a storage reservoir which is in excess of the base gas. Also called Working Gas.

Extraneous Gas: See Stored Gas, this section.

Foreign Gas: See Stored Gas, this section.

Native Gas: The total volume of gas indigenous to the storage reservoir.

Storage Reservoir: That part of the storage zone having a defined limit of porosity and/or permeability which can effectively accept, retain, and deliver gas.

Storage Well: A cased bore hole, extending from the surface into the storage zone, which is used primarily for gas input and/or output purposes.

Stored Gas: Gas physically injected into a storage reservoir.

Ultimate Reservoir Capacity: The total estimated volume of gas that could be contained in storage reservoir when it is developed to the maximum design pressure.

Working Gas: Gas in an underground storage field that is available for market. May also be called Current Gas.

Straight Gas Utility: Company which derives the major portion of its total operating revenues from gas operations. For purposes of A.G.A. statistics, a straight gas utility derives at least 95 percent of its total operating revenues from gas operations. See Combination Gas Utility.

Subbituminous Coal: Ranking of soft coal generally having a heating value of 8,300–13,000 Btu's/lb-high volatile matter and ash.

Substitute Natural Gas: See Gas, Natural.

System Type:

Distribution: Generally mains, services, and equipment which carry or control the supply of gas from the point of local supply to and including the sales meters. The system operates at various pressures as indicated below.

High Pressure: A system which operates at a pressure higher than the standard service pressure delivered to the customer; thus, a pressure regulator is required on each service to control pressure delivered to the customer. Sometimes this is referred to as medium pressure.

Low Pressure or Utilization Pressure: A system in which the gas pressure in the mains and service lines is substantially the same as that delivered to the customers' appliances; ordinarily a pressure regulator is not required on individual service lines.

Field and Gathering: A network of pipelines (mains) transporting natural gas from individual wells to compressor station, processing point, or main trunk pipeline.

Main: The network of distribution piping to which customers' service lines are attached. Generally large pipes are laid in principal streets with smaller laterals extending along side streets and connected at their ends to form a grid; sometimes laterals are brought to dead ends. Compare with Distribution, this section.

Transmission: Pipelines (Mains) installed for the purpose of transmitting gas from a source or sources of supply to one or more distribution centers, or to one or more large volume customers, or a pipeline installed to interconnect sources of supply. In typical cases transmission lines differ from gas mains in that they operate at higher pressures, are longer, and the distance between connections is greater.

Tcf: 1,000,000,000,000 cubic feet; Trillion cubic feet.

Therm: A unit of heating value equivalent to 100,000 British thermal units (Btu).

Transmission Company, Gas: A company which obtains at least 90 percent of its gas operating revenues from sales for resale and/or transportation of gas for others and/or main line sales to industrial customers *and* classifies at least 90 percent of mains (other than service pipe) as field and gathering, storage and/or transmission. Compare Distribution Company, Gas; Integrated Company, Gas. See Appendix C for a partial list of Transmission companies.

Transmission Pipeline: See System Type.

Transmission System: See System Type.

Transportation Volumes to End-Users: Volumes of gas owned by the ultimate consumer (end-user) and delivered to the ultimate consumer's meter by the transporter.

Ultimate Customer: The customer who purchases gas for consumption and not for resale purposes.

Ultimate Reservoir Capacity: See Storage, Underground.

Unaccounted for Gas: The difference between the total gas available from all sources and the total gas accounted for as sales, net interchange and company use. This difference includes leakage or other actual losses, discrepancies due to meter inaccuracies, variations of temperature and/or pressure, and other variants, particularly due to measurements being made at different times. In cycle billings, an amount of gas supply used but not billed as of the end of a period. Compare Sendout, Gas.

Underground Storage: See Storage, Underground.

Water Gas (Blue Gas): Made by passing steam over hot coke or other carbonaceous material; it consists of carbon monoxide and hydrogen with varying amounts of carbon dioxide and nitrogen. It burns with a blue flame.

Well, Wildcat: An exploratory well being drilled in unproven territory, that is, in a horizon from which there is no production in the general area.

Wet Natural Gas: See Gas, Natural.

Working Gas: See Storage, Underground.

APPENDIX B
CONVERSION TABLE

The following are some frequently used units of measure and natural gas equivalents in British thermal units (Btu). Read "=" as "contains" between volumes and energy units.

The national average Btu content per cubic foot is used. For state averages, see page 76.

1 Cubic Foot (cf) = 0.02832 Cubic Meters = 1,027.4 Btu
1 Therm = 100,000 Btu ≅ 25,200 Kilocalories ≅ 100 Cubic Feet
1 Mcf = 1,000 Cubic Feet = 28.32 Cubic Meters = 1,027,400 Btu
1 M Therm = 100,000,000 Btu ≅ 25,200,000 Kilocalories
1 MMcf = 1,000,000 Cubic Feet = 1,027,400,000 Btu

Conversion examples:
(1) To convert 2,325 MMcf to trillions of Btu:
    (2,325 MMcf) (1,027,400,000 Btu/MMcf)
        = 2,387,310,000,000 Btu
        ≅ 2.3873 trillion Btu
(2) To convert 5,000 trillion Btu to millions of cubic feet:
    (5,000 trillion Btu) (1 cf/1,027.4 Btu)
        ≅ 4.869 trillion cf (Tcf)
        ≅ 4,869,497 MMcf
(2) To convert 22,150 million therms to trillions of Btu:
    (22,150 million therms) (100,000 Btu/therm)
        = 2,215,000,000 million Btu
        = 2,215 trillion Btu
(4) To convert the Btu content of 1 cubic foot at 15.05 psia to 14.73 psia:
    (1,050 Btu/cf) (14.73 psia/15.05 psia)
        ≅ 1,027.7 Btu/cf

For comparative purposes, Btu contents of various energy sources other than natural gas are shown below.*

Fuel Oil (barrel)	
Distillate	5,825,000 Btu
Residual	6,287,000 Btu
Coal (short ton)	
Bituminous and lignite	21,263,000 Btu
Anthracite	22,244,000 Btu
Electricity (kilowatt-hour)	3,412 Btu
Natural gas liquids (barrel)	3,826,000 Btu

* Department of Energy, Energy Information Administration, *Monthly Energy Review,* April 1989.

APPENDIX C
COMPANY LISTINGS

Shown below are 100 selected companies, 25 for each company type, as used in the financial and other sections of this publication. These lists are *not* meant to be *comprehensive.* Inclusion on this list does not imply individual company data may be released.

Distribution

Alabama Gas Corporation
Atlanta Gas Light Company
Berkshire Gas Company, The
Boston Gas Company
Brooklyn Union Gas Company, The
City Gas Company of Antigo, WI
Commonwealth Gas Company
Elizabethtown Gas Company
Equitable Resources Inc.
Michigan Gas Utilities Company
Minnegasco, Inc.
Mississippi Valley Gas Company
New Jersey Natural Gas Company
North Shore Gas Company
Northwest Natural Gas Company
Peoples Gas Light and Coke Company
Peoples Gas System, Inc.
Providence Gas Company
Richmond Gas Corporation
Southern Connecticut Gas Company, The
Valley Gas Company
Washington Gas Light Company
Washington Natural Gas Company
Wisconsin Gas Company
Wisconsin Natural Gas Company

Transmission

Alabama Tennessee Natural Gas Co.
Algonquin Gas Transmission Company
ANR Pipeline Company
Colorado Interstate Gas Company
Columbia Gas Transmission Corporation
Columbia Gulf Transmission Company
East Tennessee Natural Gas Company
El Paso Natural Gas Company
Enron Corporation
Great Lakes Transmission Company
Midwestern Gas Transmission Company
Natural Gas Pipeline Co. of America
Northwest Pipeline Corporation
Pacific Gas Transmission Company
Panhandle Eastern Pipe Line Company
Southern Natural Gas Company
Texas Eastern Transmission Corporation
Texas Gas Transmission Corporation
Transcontinental Gas Pipe Line Corp.
Transok Pipe Line Company
Transwestern Pipeline Company
Trunkline Gas Company
United Gas Pipeline Company
Valero Transmission Company
Western Gas Supply Company

Integrated

Arkansas Louisiana Gas Company
Arkansas Oklahoma Gas Corporation
Arkansas Western Gas Company
Battle Creek Gas Company
Columbia Gas System Inc.
Corning Natural Gas Company
East Ohio Gas Company, The
Enserch Corporation
Enstar Natural Gas Company
Great Plains Natural Gas Company
Intermountain Gas Company
KN Energy, Inc.
Michigan Consolidated Gas Company
National Fuel Gas Company
National Gas & Oil Corporation
North Carolina Natural Gas Corporation
North Penn Gas Company
Ohio Valley Gas Corporation
Oklahoma Natural Gas Company
Peoples Natural Gas Co., The
Public Service Company of North Carolina, Inc.
Terre Haute Gas Corporation
Vermont Gas Systems, Inc.
West Ohio Gas Company
Western Kentucky Gas Company

Combination

Baltimore Gas and Electric Company
Central Illinois Light Company
Cincinnati Gas and Electric Company
Consolidated Edison Co. of NY Inc.
Consumers Power Company
Dayton Power & Light Company
Florida Public Utilities Company
Illinois Power Company
Iowa Electric Light & Power Company
Iowa-Illinois Gas & Electric Company
KPL Gas Service
Long Island Lighting Company
Louisville Gas & Electric Company
Madison Gas & Electric Company
Montana-Dakota Utilities Company
Montana Power Company
Niagara-Mohawk Power Corporation
Northern Indiana Public Service Company
Pacific Gas & Electric Company
Philadelphia Electric Company
Public Service Co. of Colorado
Public Service Electric & Gas Company
San Diego Gas & Electric Company
Washington Water Power Company
Wisconsin Public Service Corporation

APPENDIX D
GAS REQUIREMENTS COMMITTEE, NATURAL GAS CONSUMPTION

The Gas Requirements Committee (GRC) is a subcommittee of the Gas Demand Committee, a board-level committee of the American Gas Association. The GRC has been publishing reports on gas consumption since 1964, and is considered one of the three major sources of comprehensive data on natural gas consumption. The Energy Information Agency (EIA) within the U.S. Department of Energy and the American Gas Association are the other two. The Statistics and Load Forecast Methods Committee of the A.G.A. has decided to include the GRC data on natural gas consumption in this edition as part of the effort to continually improve the usefulness of the data provided in *Gas Facts.*

Comparison of consumption figures published by the three above-mentioned sources for any given year would result in some discrepancies. Certainly one reasonable explanation is that the three groups use different methods in the collection and compilation of natural gas consumption data. The major differences are caused by varying definitions, sample sizes, and points of measurement.

The GRC measure of consumption is defined as adding together the end-use consumption of all gas users including company use, unaccounted for gas and field use on a national basis only. The EIA measure of consumption is defined as the sum of deliveries to consumers, lease and plant fuel, and pipeline fuel. The A.G.A. measure of consumption is restricted to sales to consumers that are made by gas utility companies *only* and, therefore, is a subset of total United States gas consumption.

It is not the intention of the Statistics and Load Forecast Methods Committee to reconcile the differences among the reported consumption data. Rather, the reader should be aware that three sources of data exist. If the reader wishes to further analyze the GRC or EIA consumption data, it is reported in the GRC *Future Gas Consumption in the United States* reports or the EIA *Natural Gas Annual* reports.

The subsequent pages excerpt the following information from GRC publications: United States gas consumption by state, region and class of service—1989, total commercial and industrial consumption by standard industrial classification—1989, and United States gas consumption by class of service, 1976–1989.

1989
UNITED STATES GAS CONSUMPTION BY STATE, REGION & CLASS OF SERVICE

(Millions of Cubic Feet)[a]

		Firm			
	Region and State	Residential	Commercial	Industrial	Electric Utilities
(1)	**United States Total**				
(2)	**Field Use**				
(3)	**Total Excluding Field Use**	**4,802,585**	**2,381,841**	**3,000,831**	**1,134,655**
(4)	**1. New England**	**172,612**	**94,668**	**29,262**	**0**
(5)	Connecticut	40,117	19,784	8,666	0
(6)	Maine	639	1,677	894	0
(7)	Massachusetts	105,285	60,014	16,049	0
(8)	New Hampshire	6,160	5,373	1,021	0
(9)	Rhode Island	18,285	6,372	2,601	0
(10)	Vermont	2,126	1,448	31	0
(11)	**2. Appalachian**	**1,441,975**	**598,725**	**412,579**	**20,907**
(12)	Delaware	7,602	4,208	4,691	3,051
(13)	District of Columbia	17,275	6,282	244	657
(14)	Kentucky	64,234	30,545	19,252	1,196
(15)	Maryland	76,319	16,982	23,358	8,174
(16)	New Jersey	189,302	95,404	26,307	26
(17)	New York	358,646	149,973	62,543	3,124
(18)	Ohio	365,394	148,008	130,827	3,868
(19)	Pennsylvania	270,495	104,944	117,314	597
(20)	Virginia	55,960	27,507	22,490	5
(21)	West Virginia	36,748	14,872	5,553	209
(22)	**3. Southeast**	**294,579**	**174,742**	**128,765**	**7,277**
(23)	Alabama	64,251	21,241	26,727	0
(24)	Florida	14,779	33,735	7,218	6,962
(25)	Georgia	102,312	40,101	15,695	0
(26)	North Carolina	39,857	26,969	23,194	83
(27)	South Carolina	20,637	4,484	10,957	6
(28)	Tennessee	52,743	48,212	44,974	226
(29)	**4. Great Lakes**	**1,135,790**	**503,450**	**400,080**	**19,758**
(30)	Illinois	487,011	221,453	214,905	2,744
(31)	Indiana	159,104	71,366	60,914	652
(32)	Michigan	361,110	140,462	92,127	15,863
(33)	Wisconsin	128,565	70,169	32,134	499
(34)	**5. Northern Plains**	**261,893**	**142,509**	**61,835**	**627**
(35)	Iowa	79,433	38,590	44,575	398
(36)	Minnesota	116,392	59,263	11,503	229
(37)	Nebraska	44,284	29,710	4,063	0
(38)	North Dakota	10,317	8,363	149	0
(39)	South Dakota	11,467	6,583	1,545	0
(40)	**6. Mid-Continent**	**282,577**	**121,132**	**136,406**	**195,363**
(41)	Kansas	83,539	33,334	33,732	9,150
(42)	Missouri	129,521	49,709	21,895	6
(43)	Oklahoma	69,517	38,089	80,779	186,207
(44)	**7. Gulf Coast**	**351,899**	**238,675**	**1,601,643**	**790,125**
(45)	Arkansas	43,626	23,291	117,596	23,744
(46)	Louisiana	61,624	31,712	507,952	58,722
(47)	Mississippi	27,476	17,914	52,579	2,049
(48)	Texas	219,173	165,758	923,516	705,610
(49)	**8. Rocky Mountain**	**167,851**	**96,753**	**27,828**	**3,038**
(50)	Colorado	89,079	58,692	12,986	2,711
(51)	Montana	18,350	12,871	980	327
(52)	Utah	49,497	17,582	6,429	0
(53)	Wyoming	10,925	7,608	7,433	0
(54)	**9. Pacific Southwest**	**607,550**	**336,362**	**148,330**	**65,039**
(55)	Arizona	33,490	29,624	11,666	29,848
(56)	California	517,790	267,697	119,668	3,850
(57)	Nevada	24,657	13,697	9,481	23,592
(58)	New Mexico	31,613	25,344	7,515	7,749
(59)	**10. Pacific Northwest**	**71,547**	**56,582**	**51,343**	**0**
(60)	Idaho	8,767	7,589	23,050	0
(61)	Oregon	23,154	19,899	8,547	0
(62)	Washington	39,626	29,094	19,746	0
(63)	**11. Pacific**	**14,312**	**18,243**	**2,760**	**32,521**
(64)	Alaska	13,722	15,852	2,760	32,521
(65)	Hawaii	590	2,391	0	0

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[a] Btu content equals 1,000 Btu per cubic foot.

APPENDIX D

1989 (Continued)
UNITED STATES GAS CONSUMPTION BY STATE, REGION & CLASS OF SERVICE

(Millions of Cubic Feet)[a]

Interruptible					
Commercial	Industrial	Electric Utilities	Other	Total Consumption	
				19,043,907	**(1)**
				1,220,000	**(2)**
433,680	**3,673,795**	**1,711,865**	**684,655**	**17,823,907**	**(3)**
16,457	**33,935**	**33,845**	**13,862**	**394,641**	**(4)**
8,572	11,428	3,286	4,323	96,176	(5)
0	906	0	10	4,126	(6)
5,258	17,027	29,905	7,530	241,068	(7)
0	939	21	816	14,330	(8)
1,988	1,840	564	988	32,638	(9)
639	1,795	69	195	6,303	(10)
127,616	**466,174**	**272,949**	**162,691**	**3,503,616**	**(11)**
0	2,233	2,962	25	24,772	(12)
9,349	117	0	1,868	35,792	(13)
2,762	39,078	106	10,901	168,074	(14)
8,810	45,435	20,003	10,927	210,008	(15)
27,230	53,174	57,306	19,012	467,761	(16)
21,699	29,633	185,163	30,040	840,821	(17)
15,285	138,749	641	16,343	819,115	(18)
23,415	96,997	0	44,130	657,892	(19)
11,461	26,695	6,631	10,166	160,915	(20)
7,605	34,063	137	19,279	118,466	(21)
34,453	**473,417**	**188,093**	**56,129**	**1,357,455**	**(22)**
3,062	105,178	0	13,247	233,706	(23)
5,956	76,604	183,025	2,202	330,481	(24)
13,209	137,586	738	13,000	322,641	(25)
6,760	61,405	1,691	10,019	169,978	(26)
378	36,661	2,639	5,519	81,281	(27)
5,088	55,983	0	12,142	219,368	(28)
56,719	**417,542**	**7,329**	**49,288**	**2,589,956**	**(29)**
5,556	67,379	332	18,285	1,017,665	(30)
1,702	167,529	2,949	9,538	473,754	(31)
35,603	103,113	1,799	17,361	767,438	(32)
13,858	79,521	2,249	4,104	331,099	(33)
55,024	**133,252**	**6,208**	**40,832**	**702,180**	**(34)**
8,205	46,424	1,501	16,865	235,991	(35)
32,552	62,609	2,269	14,902	299,719	(36)
7,521	19,787	2,299	6,898	114,562	(37)
3,723	2,105	15	2,128	26,800	(38)
3,023	2,327	124	39	25,108	(39)
31,194	**286,503**	**18,286**	**73,205**	**1,144,666**	**(40)**
20,356	147,042	10,754	40,125	378,032	(41)
7,568	34,052	1,357	8,495	252,603	(42)
3,270	105,409	6,175	24,585	514,031	(43)
34,990	**1,157,251**	**593,899**	**172,547**	**4,941,029**	**(44)**
4,417	14,510	6,511	12,595	246,290	(45)
194	355,539	187,830	44,623	1,248,196	(46)
425	54,518	41,973	26,319	223,253	(47)
29,954	732,684	357,585	89,010	3,223,290	(48)
19,305	**56,776**	**7,890**	**12,543**	**391,984**	**(49)**
12,740	14,613	7,872	8,391	207,084	(50)
310	9,132	18	1,803	43,791	(51)
5,422	25,017	0	406	104,353	(52)
833	8,014	0	1,943	36,756	(53)
46,366	**476,793**	**559,347**	**101,221**	**2,341,008**	**(54)**
5,873	9,099	23,602	9,676	152,878	(55)
36,469	458,033	532,128	72,128	2,007,763	(56)
0	0	0	1,939	73,366	(57)
4,024	9,661	3,617	17,478	107,001	(58)
11,150	**96,067**	**21,874**	**2,139**	**310,702**	**(59)**
30	1,672	0	205	41,313	(60)
354	36,594	13,543	576	102,667	(61)
10,766	57,801	8,331	1,358	166,722	(62)
406	**76,085**	**2,145**	**198**	**146,670**	**(63)**
0	76,085	2,145	126	143,211	(64)
406	0	0	72	3,459	(65)

1989
TOTAL COMMERCIAL CONSUMPTION BY STANDARD INDUSTRIAL CLASSIFICATION

(Millions of Cubic Feet)[a]

Group	Description	Region[b]			
		1	2	3	4
01–09	Agriculture, Forestry & Fishing	227	4,812	721	8,058
10–14	Mining	17	302	41	131
15–17	Construction	822	4,547	307	3,728
20–39	Manufacturing	4,151	41,256	2,647	27,992
40–48	Transportation	2,697	19,758	2,225	12,120
49	Other Utility Services	1,273	7,976	897	11,793
50–51	Wholesale Trade	3,113	13,377	1,437	14,448
52–57,59	Retail Trade	8,097	42,926	3,535	33,164
58	Restaurants	8,498	34,814	2,600	23,080
60–64,66,67	Finance & Insurance	1,810	8,010	644	5,876
65	Real Estate (Apartments)	19,338	76,480	3,432	56,277
70	Hotels & Other Lodging	2,958	15,310	3,019	12,921
72–79	Services	6,021	35,492	5,941	29,390
80	Health Services, Hospitals	7,430	56,513	19,135	40,775
81,83,84	Legal & Social Services	799	5,809	651	3,993
82	Education (Schools)	7,353	60,357	12,328	66,964
86,88,89	Membership Organizations	3,234	36,180	2,732	22,623
91–97	Public Administration	3,374	30,807	10,110	20,576
99	Non-Classifiable	771	12,766	5,931	1,380
	Not Classified or Unreported	29,142	218,849	130,862	164,880
	Total Consumption	**111,125**	**726,341**	**209,195**	**560,169**

a. Btu content equals 1,000 Btu per cubic foot.
b. For region definition see previous table on page 208.

APPENDIX D

1989 (continued)
TOTAL COMMERCIAL CONSUMPTION BY STANDARD INDUSTRIAL CLASSIFICATION

(Millions of Cubic Feet)[a]

Region[b]								
5	6	7	8	9	10	11	Total	Group
9,345	7,421	27,729	5,650	16,452	887	0	81,302	01–09
120	46	163	395	18	45	0	1,278	10–14
1,393	466	946	1,951	1,564	651	0	16,375	15–17
2,811	9,456	3,932	169	3,915	2,425	113	98,867	20–39
4,851	1,303	3,728	5,255	7,755	1,038	0	60,730	40–48
5,453	3,343	847	2,358	74,191	2,922	254	111,307	49
4,340	1,377	4,816	2,919	6,237	3,430	0	55,494	50–51
16,408	2,889	8,483	8,063	7,766	4,988	0	136,319	52–57, 59
4,872	1,963	7,934	4,373	14,921	2,634	359	106,048	58
2,444	187	2,016	1,263	2,054	2,540	0	26,844	60–64, 66, 67
15,783	4,456	17,724	17,286	8,993	2,688	597	223,054	65
3,280	1,100	4,254	3,576	14,999	3,833	1,417	66,667	70
7,143	1,720	9,613	6,695	26,344	3,889	0	132,248	72–79
12,387	19,554	11,209	5,918	24,249	3,960	144	201,274	80
1,538	293	1,854	697	2,693	2,780	0	21,107	81, 83, 84
18,787	7,322	19,882	11,156	27,242	5,223	167	236,781	82
5,959	656	4,626	4,021	3,845	1,801	0	85,677	86, 88, 89
6,711	3,895	13,177	6,526	33,620	3,643	0	132,439	91–97
1,792	0	3,949	10,909	4,225	631	0	42,354	99
72,116	84,879	126,783	16,879	101,645	17,724	15,598	979,357	
197,533	**152,326**	**273,665**	**116,058**	**382,728**	**67,732**	**18,649**	**2,815,521**	

1989
TOTAL INDUSTRIAL CONSUMPTION BY STANDARD INDUSTRIAL CLASSIFICATION

(Millions of Cubic Feet)[a]

		Region[b]			
Group	Description	1	2	3	4
01–09	Agriculture, Forestry	589	1,032	400	1,830
10–14	Mining	1,443	951	3,685	4,548
15–17	Construction	477	1,558	466	2,326
20	Food Products	3,407	54,872	33,041	74,993
21	Tobacco Products	92	1,618	1,050	73
21	Textile Mills	3,620	8,481	55,124	1,664
23	Apparel	95	2,847	4,010	526
24	Wood Products	48	3,650	5,299	4,063
25	Furniture	188	4,989	1,804	4,239
26	Paper Products	3,805	40,289	65,341	61.419
27	Printing & Publishing	809	7,904	2,017	7,691
28	Chemicals	3.155	105,950	112,016	63,163
29	Petroleum	539	23,193	15,174	25,751
30	Rubber Plastics	1,422	17,318	12,097	14,960
31	Leather Products	203	3,380	36	1,452
32	Stone, Clay, Glass	4,432	78,028	72,346	41,778
331–332	Iron & Steel	1,950	181,389	30,124	179,985
333–339	Nonferrous Metals	1,880	48,457	20,065	26,846
34	Fabricated Metal	5,651	37,914	11,179	41,800
35	Machinery	3,092	22,685	4,718	32,783
36	Electric Equipment	2,992	29,016	5,963	13,420
37	Transportation Equipment	1,828	30,764	8,851	47,419
38	Instruments	1,552	4,484	1,521	1,808
39	Other Manufacturing	1,223	8,847	2,085	14,482
40–48	Transportation	174	28,327	121	3,653
49	Other Utility Services	2,638	18,405	1,343	2,079
	Not Classified/Unreported	15,893	112,405	132,306	142,871
	Total Consumption	**63,197**	**878,753**	**602,182**	**817,622**

---

a. Btu content equals 1,000 Btu per cubic foot.

b. For region definition see previous table on page 208.

1989 (continued)
TOTAL INDUSTRIAL CONSUMPTION BY STANDARD INDUSTRIAL CLASSIFICATION

(Millions of Cubic Feet)[a]

Region[b]								
5	6	7	8	9	10	11	Total	Group
1,048	1,970	8,702	984	722	1,200	0	18,477	01–09
504	13,318	53,287	2,685	169,298	978	0	250,697	10–14
7,982	4,260	1,693	1,253	871	111	0	20,997	15–17
37,088	7,317	36,088	11,501	68,595	25,369	0	352,271	20
66	0	150	5	3	0	0	3,057	21
116	332	1,170	49	7,295	220	0	78,071	21
158	66	1,439	126	255	110	0	9,632	23
2,948	8,041	20,996	165	2,861	6,539	0	54,610	24
419	151	1,144	137	636	81	0	13,788	25
8,821	1,874	97,344	4,791	42,603	42,438	0	368,725	26
1,246	21,627	12,617	285	3,125	314	0	57,635	27
22,159	134,963	1,250,711	10,065	41,238	17,738	42,278	1,803,436	28
2,418	46,355	419,762	13,752	98,602	11,777	0	657,323	29
1,709	3,472	8,052	1,347	4,064	370	0	64,811	30
203	1,375	212	21	1,090	16	0	7,988	31
7,417	21,163	42,063	5,364	47,785	6,951	0	327,327	32
6,396	2,110	14,580	13,130	9,056	4,605	0	443,325	331–332
2,212	5,770	68,691	8,616	33,172	11,269	0	226,978	333–339
3,660	3,528	21,651	995	10,714	1,279	0	138,371	34
4,982	370	3,542	1,536	5,181	1,743	1,980	82,612	35
1,743	6,507	5,676	678	8,922	361	0	75,278	36
1,122	5,413	7,667	2,858	12,627	4,874	0	123,423	37
820	13	4,486	1,244	895	518	0	17,341	38
603	7,420	11,226	219	3,412	1,600	0	51,117	39
220	5,465	7,618	138	838	408	0	46,962	40–48
1,077	11,552	46,446	0	0	0	0	83,540	49
77,950	108,477	611,881	2,660	51,263	6,541	34,587	1,296,834	
195,087	**422,909**	**2,758,894**	**84,604**	**625,123**	**147,410**	**78,845**	**6,674,626**	

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UNITED STATES GAS CONSUMPTION BY CLASS OF SERVICE, 1976–1989

(Millions of Cubic Feet)[a]

	Firm				Interruptible						
Year	Residential	Commercial	Industrial	Electric Utilities	Commercial	Industrial	Electric Utilities	Other	Total Excluding Field Use	Field Use	Total Consumption
1976	5,090,126	2,536,585	5,334,144	2,106,027	270,359	1,846,102	956,247	1,243,448	19,383,038	1,667,000	21,050,038
1977	4,909,373	2,463,206	5,019,752	2,017,471	222,735	1,651,440	998,913	1,167,724	18,450,614	1,694,000	20,144,614
1978	5,132,207	2,746,861	6,486,614	2,926,048	b	b	b	1,304,150	18,595,880	1,679,000	20,274,880
1979	5,144,003	2,770,674	6,973,202	3,274,967	b	b	b	1,233,424	19,396,270	1,530,000	20,926,270
1980	4,868,509	2,363,209	5,167,578	2,161,516	247,205	1,967,741	1,430,447	1,354,737	19,560,942	1,053,000	20,613,942
1981	4,654,258	2,240,388	5,026,609	2,142,754	249,760	2,001,333	1,632,357	1,350,019	19,297,478	953,000	20,250,478
1982	4,708,934	2,303,029	4,045,749	1,927,775	270,952	1,655,883	1,346,773	1,141,246	17,400,341	1,140,000	18,540,341
1983	4,429,538	2,179,757	3,763,706	1,721,185	258,656	1,903,910	1,294,767	1,180,978	16,732,497	1,009,000	17,741,497
1984	4,632,219	2,297,317	3,861,396	1,683,711	291,848	2,097,198	1,515,668	960,594	17,[illegible]9,951	1,110,000	18,449,951
1985	4,559,026	2,255,642	3,845,440	1,616,996	302,322	2,154,120	1,567,307	1,071,271	17,372,124	1,051,000	18,423,124
1986	4,427,780	2,190,161	3,414,110	1,623,445	324,072	2,049,168	1,238,241	1,112,099	16,379,076	972,000	17,351,076
1987	4,407,617	2,193,420	3,204,744	1,334,910	357,314	2,792,118	1,587,153	991,156	16,868,432	972,000	17,840,432
1988	4,711,724	2,321,364	2,804,233	1,113,494	438,018	5,087,818	1,570,155	780,755	17,257,406	1,192,000	18,449,406
1989	4,802,585	2,381,841	3,000,831	1,134,655	433,680	3,673,795	1,711,865	684,655	17,823,907	1,220,000	19,043,907

a. Btu content equals 1,000 Btu per cubic foot.

b. In 1978 and 1979, firm and interruptible service were not measured individually; therefore all consumption is included under firm for each class of service.